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## ABSTRACT E-BOOK

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# SYMPOSIUM ABSTRACTS

**SP-01**

**Improving healthcare of mood disorders with machine learning: the gene-environment, immunoinflammatory and neuroimaging signatures**

Benedetta Vai
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Around 60% of depressed people with bipolar disorder (BD) wait 5–10 years for a proper diagnosis. Even when diagnosis is correctly defined, one third of patients do not respond to two or more antidepressant treatments and the majority has a chronic or intermittent disease course, experiencing recurrent relapses, and a higher risk of suicide or developing physical comorbidity, such as cardiovascular disorders. A tremendous need exists to identify reliable markers and tools that can prompt more rapid and effective intervention. In this talk, we will start introducing the advantages of applying machine learning techniques and computational psychiatry approaches to defining personalized medicine interventions in mood disorders. In this framework, we will show our most recent results, where exploiting different cutting-edge machine learning (ML) algorithms in cohort of 300 MDD and BD patients, we are able to i) predict the differential diagnosis between BD, MDD and HC, from genetics (polygenic risk scores), immuno-inflammatory system (panel of peripheral markers) and multimodal structural neuroimaging data; ii) patients at risk of committing suicide, thanks to the parametrization of amygdala habituation to negative stimuli, and iii) stratifying the heterogeneric MDD and BD populations from structural neuroimaging. The identified groups will be then characterized for their profiles including depressive symptoms, history of childhood abuse, treatment resistance and cardiovascular comorbidities. Application of ML techniques in data harmonization, and feature reduction will be also discussed. Finally, our original studies will be presented in light of the results of our recent systematic review and meta-analyses focused on the application of machine learning methods in mood disorders and psychosis. Current strengths and pitfalls, and future direction of application of ML techniques in psychiatry will be presented.

**Keywords:** depression, treatment resistance, machine learning, neuroimaging, inflammation

**SP-02**

**Inflammatory biomarkers for an early screening of vulnerability and for a personalized intervention**

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It is well accepted that early life stress affects the brain developmental trajectories leading to an enhanced vulnerability for stress-related psychiatric disorders later in life. However, even though we understand that there is a clear association between these exposures and an increased risk at later life to develop mental problems, the biological underpinnings are multifaceted, complex, and not yet fully understood. We currently lack early biomarkers to detect individuals at risk, ii) the mechanisms underlying the programming effects of adversity, iii) and biomarkers that can predict and monitor the efficacy of interventions. In this talk I will discuss from both clinical and preclinical perspectives, the role of inflammation as biological system that could be involved in the vulnerability, pathophysiology and treatment of mental disorders, with particular focus to depression. I will also show preclinical data, where for example we have demonstrated that an exposure to prenatal stress is leading to a pro-inflammatory status in the brain in the offspring with adolescence as the temporal window where such alterations are most pronounced. I will also discuss the importance of monitor key genes associated with inflammation as possible biomarkers that can predict and monitor the efficacy of pharmacological interventions. I will show data from GENDEP Cohort where we showed that the baseline levels of several pro-inflammatory mediators can predict the treatment response. Interestingly, this data where then replicated in independent cohorts, including the BIODEP study, where we have also performed a RNAseq analyses to identify not only biomarkers but also peripheral mechanisms underlying the efficacy of pharmacological interventions. Overall, this talk will present clinically relevant research that combines innovative tools in rodents with findings from human studies to provide transformative frameworks on how we may be able to better understand, treat and prevent the detrimental programming by adversities on health.

**Keywords:** depression, inflammation, stress, brain, treatment

**SP-03**

**Identifying Depression Early in Adolescence (IDEA): from sociodemographic to biological risk**

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Depression is a leading contributor to the global burden of disease, and for the majority of individuals, has its onset in adolescence and young adulthood. Despite the importance of this problem, we still lack good prevention and treatment strategies for adolescent depression and this is largely due to the fact that we still do not know enough about how depression develops and how to identify adolescents who are at highest risk for depression. Previous literature has suggested an interaction between sociodemographic/environmental and biological factors in increasing the risk of adolescent depression. In this talk, we will present work from the Identifying Depression Early in Adolescence (IDEA) project. We will start introducing the composite risk score for the development of depression in adolescence that we have generated using 11 sociodemographic variables. We will then present data showing replication of the accuracy of the IDEA risk score across different longitudinal cohorts of adolescents from different countries (Brazil, UK, New Zealand, Nepal, Nigeria, USA). We will then move on to presenting the evidence about interaction between environmental and biological factors focussing on our work conducted in a longitudinal cohort of adolescents stratified for risk/presence of depression using the IDEA risk score (IDEA RiSCo cohort). The IDEA RiSCo cohort includes 150 adolescents stratified in 3 groups on the basis of the IDEA risk score and a dimensional measure of depression assessed with Patient Health Questionnaire Adolescence (PHQ-A). The three groups include: one group of adolescents at low risk (n=50; PHQ-A<=6 and RS<20th percentile), one group at high risk (n=50; PHQ-A<=6 and RS>90th percentile), and one group with current depression (n=50; PHQ-A>=10 and RS>90th percentile). We will finish by presenting the unpublished data on biological markers including cytokine and kynurenine metabolites levels which have been measured in the IDEA RiSCo cohort.

**Keywords**: depression, adolescence, risk score, cohort, neurobiology

**SP-04**

**Immunometabolic dysregulations in major depressive disorder: implications and examples for personalized treatment**

Femke Lamers
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While meta-analytical evidence exists of associations between inflammatory markers and obesity with major depressive disorder (MDD), it is becoming clear that not all depressed persons are obese or have increased inflammatory markers. This is perhaps not surprising as MDD is a highly heterogeneous disorder; persons with MDD can present with different symptom profiles, each of which may have its own etiology and pathophysiology, and may require a different, personalized treatment strategy. In this presentation, we will discuss the evidence to date for immuno-metabolic depression, a form of depression characterized by atypical, energy-related symptoms that clusters with inflammatory and metabolic dysregulations, and is present in ~25% of MDD cases. Research based on the Netherlands Study of Depression and Anxiety (NESDA, n=2981) has shown that inflammation, obesity and other metabolic dysregulations such as increased levels of insulin and leptin, and increased prevalence of metabolic syndrome are mainly observed in cases presenting with atypical depressive symptoms (e.g. hyperphagia/ increased weight, fatigue, leaden paralysis), and replicated by other epidemiological cohorts. These patients are more often female, have a differential neurobiological profile, and have higher polygenic risk scores for BMI, leptin and CRP. This immuno-metabolic form of depression may best respond to treatments targeting immune or metabolic pathways. Ongoing projects on personalized medicine for immuno-metabolic depression will be presented, including the PERCIM study that investigates the role of atypical, energy-related symptoms, inflammatory markers (CRP, IL-6, TNF-α, IFN-g) and metabolomics (Nightingale platform) on treatment outcomes in existing RCT data investigating antidepressants, running therapy, light therapy or nutritional interventions to prevent depression onset. Furthermore, we will present the inflaMED double-blind RCT on a 12-week add-on celecoxib treatment (400mg/day) vs placebo in 140 persons with immuno-metabolic depression. We will conclude by discussing implications and future directions for (treatment of) immuno-metabolic depression.

**Keywords**: Depression; Heterogeneity; Inflammation; Metabolic syndrome; Profiling.

**SP-05**

**Immuno-Metabolic Depression: bringing precision psychiatry from research to the clinics**

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We recently introduced a model describing a dimension of depression – labelled "immuno-metabolic depression (IMD)" - emerging from the clustering of biological alterations in immune and metabolic pathways and behavioral symptoms reflecting altered energy intake and utilization. The talk will illustrate recent findings from large-scale epidemiological and biobank studies examining the biological profile of IMD. For instance, by leveraging data from metabolome-wide platforms in NESDA (Netherlands Study of Depression and Anxiety, N~3000) and NEO (Netherlands Epidemiology of Obesity, N~7,000) cohorts, we characterized the metabolomic signature of IMD and its specific overlap with established cardiometabolic risk profiles. Furthermore, we used genomics in NESDA and NEO to uncouple the effect of adiposity from that of metabolic dysregulations, showing that metabolic dysregulations are the shared underlying mechanisms connecting adiposity to depressive symptoms related to IMD. Importantly, the use of genomics allowed us to investigate causality with Mendelian randomization (MR), exploiting genetic variants as proxy instruments. Results of MR in UK Biobank (N~150000) and Psychiatric Genomics Consortium (N~26000) showed that mechanisms related to inflammation and adiposity are potentially causal for the development of specific depressive symptoms such as altered sleep, fatigue, and hyperphagia. Overall, the emergent dimension of IMD may represent a promising tool to dissect depression's heterogeneity, an essential next step to bring precision psychiatry from research to the clinics. Application of IMD in translational research has begun. The talk will conclude with the presentation of the new INFLAMED randomized placebo-controlled trial investigating the efficacy of an anti-inflammatory add-on (celecoxib 400 mg/die) in the 12-week treatment of a selected group of 140 subjects with MDD expressing IMD features.

**Keywords**: Depression, hetereogeneity, immuno-metabolic

**SP-06**

**The role of childhood trauma in characterizing depression**

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Research findings suggest that depressed persons with a history of childhood trauma (CT) may constitute a distinct subgroup of depressed patients. CT has been causally linked to depression and depressed patients with a history of CT have on average an earlier age of onset of depression and worse clinical outcomes than depressed patients without CT. In this presentation, we will discuss original evidence and treatment implications of CT as a characterizing feature of depression. We will discuss findings from two recent meta-analyses that assessed the differentiating role of CT in depression. We carried out an individual-participant data meta-analysis as part of the EarlyCause project on 13 international epidemiological cohorts (N=217,929), which established that CT was associated with more depression (OR[95%CI]=2.68[2.39;3.00]), cardiometabolic disease (OR[95%CI]=1.27[1.18;1.37]), and comorbidity of the two diseases (OR[95%CI]=3.04[2.51;3.68]). Post-hoc analyses showed that depressed patients with CT have more comorbid cardiometabolic diseases than depressed patients without CT (OR[95%CI]=0.65 [0.59;0.71]). CT may therefore be a clinically relevant indicator connecting poor mental and somatic health. Possibly, childhood trauma triggers a cascade of mechanisms leading to a form of depression co-occurring more often with cardiometabolic dysfunctions. In addition, a comprehensive systematic review and meta-analysis of 29 randomized controlled and open trials (N=6,830) showed that, although depressed patients with a history of CT benefit from current psychopharmacological and psychotherapeutic treatments (g[95%CI]=0.61[0.29;0.92]), they remain more severely depressed than patients without CT. Both these meta-analyses highlight novel aspects of the distinctiveness of depressed patients with CT and their potential need for more personalized treatments. To address this issue, we will conclude the talk with a presentation of ongoing randomized controlled trials, the RESET studies, that aim to evaluate the effectiveness of innovative psychopharmacological (mifepristone) and psychotherapeutic (eye movement desensitization and reprocessing and imagery rescripting) treatments for depressed patients with a history of CT.

**Keywords**: childhood maltreatment, depression, comorbidity

**SP-07**

## A Delphi-method-based consensus guideline for definition of treatment-resistant depression for clinical trials

Luca Sforzini
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Major depressive disorder (MDD) is a heterogeneous condition and, despite many effective treatments are currently available1, inadequate responses remain a common clinical scenario in a significant proportion of individuals2. However, criteria for treatment-resistant depression (TRD) and partially responsive depression (PRD) as subtypes of MDD are not unequivocally defined3. This complicates the generalizability of results from research settings to the real-world, as there is no uniform population for clinical and biological investigations. We first review the literature and bring together a large group of international experts (including clinicians, academics, researchers, employees of pharmaceutical companies, regulatory bodies representatives, and one person with lived experience) to evaluate the state-of-the-art and main controversies regarding the current classification. Then, we use a Delphi-method-based consensus approach to define TRD and PRD and to serve as operational criteria for future TRD/PRD clinical trials, especially if conducted for regulatory purposes. We produce a total of 25 consensus recommendations, based on the view supported by the largest number of the experts (>50%). We further highlight areas of uncertainty and define the level of consensus on each recommendation: strong (>95%; unanimous, or almost unanimous), moderate (substantial majority, 61-94%) or weak (small majority, 50-60%). A definition of TRD, distinguished from PRD, is recommended. TRD should be defined after a minimum of two failed treatments (improvement <25%) with adequate dosing and duration (the minimal effective dosage administered for at least four weeks), while PRD can be defined even after a single treatment (improvement 25–<50%). We offer clear and consistent definitions of TRD/PRD to be used as inclusion/exclusion criteria for clinical trials. This guideline has been developed as part of the EUropean Patient-cEntric clinicAl tRial pLatforms, Innovative Medicines Initiative (EU-PEARL, IMI) project. Our ultimate ambition is to advance tailored treatments and a precision-medicine approach for MDD.

**Keywords**: Treatment-resistant depression (TRD), clinical trials, guidelines

**SP-08**

**Genomic and neurobiological studies can elucidate the mode of action of lithium**

Martin Alda
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Lithium, the third lightest element continues puzzling us with respect to its pharmacological action. Since at least the late 1960s, it has been investigated in countless efforts to finds its biological effects and link them to the multitude of clinical effects. The primary indication for lithium is the treatment of mania and prevention of episodes of bipolar disorder. Apart from these, it plays a role in the treatment / augmentation in depression, it has anti-suicidal effects at least in part independent of its mood stabilizing properties. Additionally, it has multiple non-psychiatric indications. The biological effects of lithium range from effects on membrane transport, calcium signaling, mitochondrial function, second messenger systems linked to G protein and inositol signaling pathways, effects on Wnt / GSK3 systems. These molecular and cellular actions translate into neuroprotective effects and changes in chronobiological regulations among others. Efforts to match these mechanisms to the specific clinic

**Keywords**: Lithium; bipolar disorder; mechanism of action; genetics

**SP-09**

**Lithium in the treatment of depression and suicide prevention**

Michael Bauer
Technical University of Dresden, Germany

This presentation summarizes the current status of lithium's role in the treatment of acute and maintenance treatment of depression, and prevention of suicide. In contrast to the consistent positive results seen with lithium in treating acute mania, the efficacy of lithium for acute depression has been controversial from the earliest clinical observations. However, beyond its efficacy as a monotherapy in depression, lithium has also been evaluated positively as an adjunctive (augmentation) treatment for unipolar depression, added to an antidepressant. A few studies have additionally evaluated lithium's role as an antidepressant accelerating strategy. The potential value of lithium in preventing depressive episodes in patients with recurrent unipolar depression has received less attention. However, its prophylactic properties have been investigated since the late 1950s. In these studies, Lithium has exhibited consistent evidence of its ability to prevent depressive episodes in unipolar depression. The latest comprehensive review and meta-analysis included nine randomized, double-blind, placebo-controlled studies in recurrent unipolar disorder and found that lithium was highly effective: 75% of patients suffered a recurrence on placebo versus 36% on maintenance lithium. Another potential role for lithium-lies in the prevention of suicidality. Since the early 1970s, several reports from various research groups confirmed the finding that long-term lithium therapy may lower suicide rates.

Keywords: Lithium; depression; suicide, augmentation of antidepressants

**SP-10**

**Adverse side effects of lithium: are they manageable?**

Ursula Werneke
Umea University, Sweden

Lithium is a first-line maintenance treatment for bipolar disorder with proven benefits concerning the prevention of severe affective episodes and suicide. Yet, stopping lithium is common and mostly occurs due to adverse effects. Three of the major adverse effects subject to regular monitoring concern the thyroid gland, the parathyroid gland, and the kidneys. In the kidneys, adverse effects may be due to tubular or glomerular damage. This presentation will give an overview of these adverse effects, explore their potential reversibility with lithium discontinuation, and discuss potential treatment options.

**Keywords**: Lithium; side effects; thyroid; parathyroid; kidney

**SP-11**

## For broader use of lithium: correcting the anomalous association between lithium data and lithium use

Janusz Rybakowski
Depatment of Adult Psychiatry, Poznan University of Medical Sciences, Poland

There is a discrepancy between favourable data of lithium's therapeutic activity and the decreased use of the drug worldwide. The data point to lithium as the best mood stabilizer in the maintenance treatment of bipolar disorder for the prevention of manic and depressive recurrences. The second most encouraging psychiatric use of lithium is the augmentation of antidepressants in treatment-resistant depression. In addition to its mood-stabilizing properties, lithium is the most efficacious antisuicidal drug among all mood stabilizers. The drug also exerts antiviral, immunomodulatory, and neuroprotective effects which may be of major clinical value. On the other hand, the data of lithium use show that its therapeutic application in many countries has declined. A reason for this can be the introduction and heavy promotion of other mood-stabilizers, while lithium is an "orphan" drug with the minimal interest of any drug company. Probably, very important is also a perception of lithium as a "toxic drug", pointing to its side effects, mainly thyroid, renal and cognitive ones. In recent years, several proposals to turn back this anomalous association appeared, challenging a negative perception of lithium and optimizing its long-term administration. They show the data on lithium superiority over other mood stabilizers and point to the proper management of the lithium-induced side effects. This endeavour aims to allow a larger number of mood disorder patients to become beneficiaries of lithium use.

**Keywords**: Lithium; beneficial effects; decreased use; correcting anomalous association

**SP-12**

## Latest evidence on pharmacological augmentation for treatment-resistant depression: does the Lithium versus Quetiapine (LQD) Study change best practice?

Anthony Cleare
king's College London, UK

Pharmacological augmentation strategies are an effective option for managing treatment resistant depression (TRD) with some evidence of their superiority over antidepressant switch strategies; however, very few eligible patients actually receive them. Whilst there are many available options, with varying degrees of supporting evidence, few studies have directly compared augmentation treatments head to head. Furthermore, there is an absence of evidence regarding long term effectiveness, and few studies have considered longitudinal outcomes given the tendency for symptoms and disability in TRD to fluctuate over time. This talk will review the current best practice recommendations for pharmacological augmentation, and discuss how this results of the recent LQD study may inform and change practice. The LQD study is a large, multicentre, randomised pragmatic trial comparing the clinical and cost-effectiveness of two of the recommended first line augmentation treatments, lithium and quetiapine. In order to obtain a true longitudinal assessment of efficacy, the study used weekly measures of depression symptoms and disability over 52 weeks. Full results of the LQD study will be presented, which have the potential to change the optimal strategy for managing TRD.

**Keywords**: treatment resistant depression, augmentation therapy, lithium, quetiapine

**SP-13**

**The genetics of treatment-resistant depression: results and new opportunities from biobanks and electronic health records**

Chiara Fabbri
University of Bologna, Italy

Genome-wide association studies of antidepressant response showed a significant heritability and found possible implicated genes/pathways. However, sample size has been an important limitation of pharmacogenetic studies in this field, as the standard clinical assessment of treatment response is time- and resource-consuming. Data from biobanks linked to electronic health records (EHRs) are an exciting opportunity to perform large pharmacogenetic studies of antidepressant response and treatment-resistant depression (TRD). Proxies of response and TRD can be defined using EHRs of primary care, e.g., based on the number of antidepressant switches within a defined time frame, as recently performed in the UK Biobank. The longitudinal design and phenotypic richness of this dataset offers a unique opportunity to study the clinical and genetic characteristics of TRD in a large sample. The clinical-demographic characteristics of TRD defined using this approach were in line with those found by previous studies, corroborating the validity of the approach. A significant SNP-heritability of TRD vs non-TRD depression was demonstrated (~8%), as well as of TRD vs healthy controls (~25%), and an interesting genetic overlap of TRD with attention-deficit hyperactivity disorder was found. These data can also be used to conduct drug-repurposing studies focused on TRD and associated depression subtypes (e.g., with anxiety features), to increase the chances of identifying compounds that may be effective in patients poorly responsive to standard antidepressants. Ongoing work/future directions will also be discussed, such as collaborative projects to meta-analyse data from different biobanks, and the use of genome-wide genotypes to impute variants in cytochrome P450 (CYP450) genes and obtain the corresponding metabolizing groups in large biobanks.

**Keywords**: Pharmacogenomics, treatment resistant depression, antidepressants

**SP-14**

**Ketamine and esketamine for unipolar and bipolar depression**

Philipp Ritter
University Hospital Carl Gustav Carus Dresden, Germany

Bipolar disorder is associated with substantial functional impairment due to disability, considerable individual and societal economic costs and high rates of completed suicides. Despite also being characterized by episodes of hypomania and mania, depression is the predominant polarity regardless of bipolar subtype. Episodes of depression last for approximately 5 months on average and patients with bipolar disorder spend between 18% (BD-I) and 27% (BD-II) of their lifetime in depressive episodes following disease onset. Psychosocial impairment is largely related to duration and severity of depressive symptoms and the high suicide mortality is strongly associated with the cumulative burden of depressive episodes. The antidepressant and antisuicidal efficacy of iv ketamine and nasal esketamine have been robustly established in unipolar depression. Several trials have shown repeated dose iv ketamine or nasal esketamine to be efficacious in the treatment of unipolar and treatment resistant depression. The evidence regarding the use of ketamine in bipolar depression is more scarce. Currently available treatments for bipolar depression are associated with significant metabolic side effects (i.e. quetiapine, olanzapine) or a long latency of antidepressant effect (i.e. lamotrigine, lithium). Conventional antidepressants are of limited efficacy and may worsen disease course. There are currently no approved therapies with a rapid onset of action and immediate antisuicidal efficacy for bipolar depression. During this talk the current evidence and practical aspects regarding the use of ketamine and esketamine in bipolar depression will be reviewed and discussed.

**Keywords**: ketamine, bipolar disorder, depression

**SP-15**

**The Role of Probiotic Supplementation in Major Depressive Disorder and TRD**

Viktoriya Nikolova
King's College London, UK

Research over recent years has outlined a clear role for the microbiota-gut-brain axis in the pathophysiology of mood disorders, which has given rise to the use of microbiota-targeted interventions and dietary supplements, such as probiotics. However, high quality clinical trials are still scarce and a deeper understanding of the underlying mechanisms of action are needed to support and guide their use. This talk will present novel findings from a randomised double-blind placebo-controlled pilot trial (NCT03893162) conducted in London, UK, that examined the safety, tolerability and putative efficacy of an 8-week daily consumption of a multi-strain probiotic supplement in adults with MDD, experiencing an incomplete response to antidepressants. Analyses of the effects of this probiotic supplement on the composition of gut microbiota, levels of circulating inflammatory cytokines and cognitive affective bias will also be presented and putative mechanisms of action proposed. The findings will be evaluated in the context of the wider clinical evidence and important next steps will be outlined for this promising new approach.

**Keywords**: microbiota, probiotics, depression

**SP-16**

**Lithium: new questions about the old element.**

Allan Young
King's College London, UK

Lithium is arguably the oldest treatment in medicine having been created as an element shortly after the big bang. Introduced into psychiatry after the groundbreaking work of Cade and Schou, it overcame the criticisms of the Maudsley academics to be accepted as a treatment for mania, bipolar depression and prevention of future episodes of both. The evidence of benefit in unipolar disorder seems clear. Early work by Coppen was confirmed to show antisuicidal benefits. New questions remain: a recent review of questionable methodology questions the antisuicidal benefits although these have also been shown for trace levels in the environment. This also leads to the notion that low-dose, prolonged treatment with lithium may be beneficial for health. However, recent data have suggested a link of these trace levels with autism. Lastly, work is underway attempting to identify biomarkers of lithium response and this if successful will finally bring the benefits of personalised medicine into psychiatric clinical practice.

**Keywords**: Lithium, bipolar, autism.

**SP-17**

**Is lithium neurotrophic?**

Josselin Houenou
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Seventy-five years after its “discovery”, lithium cellular mechanism of action in bipolar disorder is still largely unknown. Neuroimaging (in humans) and neuropathological (in animals) studies suggest that lithium may exert its therapeutic effects through neuroprotection or even neurotrophicity, with mechanisms such as decreased apoptosis, increased protection or even growth and differentiation of new neurons. We will present the evidence supporting these views and suggest an alternative model: lithium may act through modified/increased synaptic plasticity. This would allow the restoration of electrophysiological and fronto-limbic circuitry balances. If proven, such an effect would pave the way to better patient stratification, but also enlarged indications of lithium to synaptopathies.

**Keywords:** lithium, bipolar disorder, synapse

**SP-18**

**Lithium imaging: high and low – far and wide.**

David Cousins
Newcastle Magnetic Resonance Centre, Newcastle University, UK

Lithium is a unique medication. As a monovalent cation with favourable spin properties, its distribution in the human brain can be directly determined using multinuclear magnetic resonance techniques. The development of 3D 7Li-MRI has demonstrated that lithium has a heterogenous distribution and permitted the colocalization of regional concentrations with its tissue level effects. This advance may yield a powerful biomarker of response to lithium in bipolar disorder. In this session, Dr Cousins will review the development of this technique and its dissemination to multiple centres as part of the R-LiNK initiative (https://rlink.eu.com). Approaches to analysis and interpretation with respect to response will be discussed, drawing on cross-sectional and longitudinal studies of European cohorts. The limits of dose detection will also be explored, presenting new sequence developments capable of detecting lithium within the range of environmental exposure. The opportunities afforded by this will be considered, notably the examination of the relationship between lithium exposure and risk of dementia at the individual rather than population level.

Keywords: Lithium, MRI, Bipolar

**SP-19**

**Brain structural response to lithium in bipolar disorder**

Letizia Squarcina
University of Milan, Italy

Lithium modulates various neurotransmitter systems in the brain, including dopamine, serotonin, and glutamate, which are involved in regulating mood, cognition, and behavior, ultimately leading to modifications to the brain of patients medicated with it. This presentation will provide an overview of the most recent findings in terms of structural and functional impact of lithium in the brain of bipolar patients, from a neuroimaging point of view. Moreover, results from the European project R-LiNK, focused on the definition of novel biomarkers for the prediction of response to lithium, will be presented. Structural MRI studies have shown that lithium treatment is associated with increased gray matter volume in several brain regions. For example, the prefrontal cortex, the hippocampus and the amygdala show increased gray matter volume in patients treated with lithium, addressing memory function, emotional regulation and potentially reducing the intensity of mood episodes. In addition to changes in gray matter volume, diffusion MRI studies have revealed that lithium treatment can increase white matter integrity in the brain, particularly in the frontal and temporal lobes. White matter integrity is essential for efficient information processing and communication between brain regions. Finally, studies employing magnetic resonance spectroscopy suggest that lithium treatment may have neuroprotective effects and affect cellular membrane turnover, as reflected by increased levels of NAA and increased levels of choline respectively, especially in the prefrontal cortex. Taken together, these findings suggest that lithium treatment may have positive effects on brain structure and function in individuals with bipolar disorder. However, it is not clear whether the changes in brain structure and function observed in neuroimaging studies are directly related to symptom improvement in bipolar disorder. Future research is needed to address these questions and further elucidate the neurobiological effects of lithium in bipolar disorder.

**Keywords**: lithium, bipolar disorder, brain imaging, diffusion imaging, MRS

**SP-20**

**The vulnerability stress model and longitudinal brain structure: Interaction of early and current environmental stress in affective disorders**

Tilo Kircher
University of Marburg, Germany

Background: The diathesis-stress model of major depressive disorder (MDD) predicts interactions of recent stressful life events (SLEs) in adulthood and early developmental risk factors. We tested, for the first time, the diathesis stress model on brain structure in a large group of MDD patients. Methods: Structural magnetic resonance imaging data of MDD and healthy were analyzed from the longitudinal FOR2107 cohort using voxel-based morphometry to identify clusters associated with recent SLEs (Life Events Questionnaire). Those clusters were then examined for group (healthy/MDD) × early developmental risk (operationalized as childhood abuse [Childhood Trauma Questionnaire] and a major psychiatric disorder [i.e., MDD, bipolar disorder, schizophrenia, and schizoaffective disorder] in a first-degree relative) × recent SLEs three-way interactions on grey matter volume. Results: There was a group × childhood abuse × recent SLEs interaction on left medial orbitofrontal cortex grey matter volume. This three-way interaction arose because childhood abuse and recent SLEs interacted in MDD subjects but not in healthy subjects. Conclusions: Our data provides evidence for an interplay between orbitofrontal cortex structure, childhood abuse and recent SLEs. These factors have previously been linked to MDD and their complex interaction contributes to the pathogenesis of MDD.

**Keywords**: childhood maltreatment, life events, brain structure

**SP-21**

**Course prediction of depression and anxiety disorders in the NESDA project**

Brenda Penninx
Amsterdam UMC, The Netherlands

While most treatment studies focus on recovery within weeks or months, the long-term course of depression and anxiety disorders remains less established. Using 9-year longitudinal data from the Netherlands Study of Depression and Anxiety (NESDA, n=2981), we examined the naturalistic course of depression and anxiety disorders. Unfortunately, chronicity appeared more the rule than the exception (Verduijn et al. BMC Med 2018). This is despite the fact that many persons in the study did receive pharmacotherapy, psychotherapy or a combination of these. For instance, after 6 year, 58% of the sample had (recurrent) episodes of chronic duration in which switching between different affective disorders was frequent. Also, when examining 9-year patterns in symptom severity reports, it appears that 63% of the sample belongs to the symptom cluster group that showed only a minimal improvement (Solis et al. J Affect Dis 2021). Machine learning analyses in which we considered basic clinical, psychological, lifestyle and biological predictors of course, yielded a significant prediction but with only moderate prediction value (accuracy 68%, Dinga et al. Transl Psychiatry 2018). Adding epigenetic or proteomic data did further improve predictive value (accuracy 75-75%, Clarck et al. Mol Psychiatry 2019; Habets et al. in progress). It will be presented what these findings tell us about the underlying biological mechanisms of chronicity. In addition, it will be discussed what the implications of the overall chronicity findings are for daily mental health practice in terms of chronic disease management opportunities.

**Keywords**: Chronicity, prediction, biomarkers

**SP-22**

## Longitudinal neonatal brain development and environmental correlates of infant outcomes following preterm birth

Chiara Nosarti
King's College London, UK

Preterm birth results in premature exposure of the brain to the extrauterine environment during a critical period of neurodevelopment. Consequently, infants born preterm are at a heightened risk of adverse behavioural outcomes in later life. We characterise longitudinal development of neonatal regional brain volume and functional connectivity in the first weeks following preterm birth, sociodemographic factors, and their respective relationships to psychomotor outcomes and psychopathology in toddlerhood. We study 121 infants born preterm who underwent magnetic resonance imaging shortly after birth, at term-equivalent age, or both. Longitudinal regional brain volume and functional connectivity were modelled as a function of psychopathology and psychomotor outcomes at 18 months. Better psychomotor functioning in toddlerhood was associated with greater relative right cerebellar volume and a more rapid decrease over time of sensorimotor degree centrality in the neonatal period. In contrast, increased 18-month psychopathology was associated with a more rapid decrease in relative regional subcortical volume. Furthermore, while socio-economic deprivation was related to both psychopathology and psychomotor outcomes, cognitively stimulating parenting predicted psychopathology only. Our study highlights the importance of longitudinal imaging to better predict toddler outcomes following preterm birth, as well as disparate environmental influences on separable facets of behavioural development in this population.

**Keywords**: preterm birth; psychopathology; longitudinal MRI

**SP-23**

**Internalizing symptoms trajectories from childhood to early adulthood, through adolescence, in Clinical and General population samples: results from the REMIND project**

Maria Nobile
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The REMIND project aimed at identifying specific clusters of symptom trajectories in internalizing and externalizing areas and evaluating their different exposure to risk factors in a developmental perspective. The involved subjects from a general and a help-seeking population were evaluated at pre-adolescence (T0), adolescence (T1) and young adulthood (T2). Psychopathological symptoms were measured through ASEBA questionnaires at the 3 time points, also neurobiological markers were collected. A Multivariate Finite Mixture Model (MFMM) was used to estimate specific developmental clusters considering T1 and T2 symptoms. We evaluated whether belonging to a specific developmental cluster was associated with sociodemographic characteristics, environmental risks (i.e., perinatal complications and stressful life events) and psychopathological symptoms measured at T0. While externalizing symptoms resulted in overall stability, our data suggested the presence of specific internalizing symptoms trajectories from adolescence to adulthood in different internalizing scales: Anxious-Depressed and Somatic scales showed 3 developmental clusters (“stable high”, “stable low”, “low-to-high”), Withdrawn-Depressed scale showed 2 developmental clusters (“stable high”, “stable low”). Individuals belonging to the ‘stable high’ internalizing developmental clusters, presented higher emotional/behavioral dysregulation during preadolescence, with the co-occurrence of higher internalizing and externalizing problems, thus suggesting the importance of accounting for both homotypic and heterotypic continuity in psychopathological traits when planning interventions.

**Keywords**: internalizing symptoms, developmental Trajectories, prediction

**SP-24**

## Ketamine Modulates Reward-Related Areas: Studies in Depression and Treatment-Resistant Depression and Bipola

Mitul Mehta
Centre for Neuroimaging, Dept. Neuroimaging, Institute of Psychiatry, Psychology and Neuroscience, UK

Reviewing studies of Ketamine and neuroimaging, and relation to reward system. This presentation will show new data exploring the effects of ketamine on the functional connectivity of the brain at rest in patients with treatment-resistant depression (TRD), including patients with MDD, Bipolar I and Bipolar II disorders. In a double-blind active-placebo crossover design a single group of people with TRD assessed the effects of active placebo (midazolam) and then ketamine, or ketamine and then midazolam. Moreover, this study investigated the relationship between these changes and response to treatment and drug-induced changes in reward and emotion-based brain activity, structural connectivity, cerebral blood flow, cognition, metabolism and other blood markers. Ketamine increased brain activation in areas that have a key role in emotional processing including the amygdala, the insula and the sgACC during an emotional processing fMRI task. The increases in the activation of the sgACC and limbic areas are predicted a reduction in depression symptoms.

**Keywords**: Neuroimage, Reward System, Ketamine, Treatment Resistant Depression

**SP-25**

## Ketamine in Treatment Resistant Unipolar and Bipolar Depression and Bipolar Depression - which routes is best?

Mario Juruena
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Emerging evidence has shown Ketamine to be a rapid-acting anti-depressant effective in difficult-to-treat populations. Most research has investigated Intravenous and intranasal administrative routes. Therefore, there is a need to review the efficacy, safety, and tolerability of alternative routes of ketamine administration. More RCTs are needed to categorise the efficacy of subcutaneous, sublingual, and oral delivery. We will present new data on treatment outcomes with Ketamine in different routes in treatment-resistant depression and bipolar depression with Ketamine in different routes from the Maudsley Advanced Treatment Service (MATS) at King's College London/SLaM. New data from a double-blind clinical trial, randomised, placebo-controlled, crossover comparison of single ascending oral doses of oral ketamine immediate release in healthy subjects. We assessed the Pharmacokinetics of oral ketamine IR (Cmax, Cmax/Dose, tmax, tlag, AUClast, AUC0–t, AUCinf, AUCinf/Dose, tó, CL/F, VZ/F,), and its metabolites (R, S, and racemic forms of metabolites including but not limited to norketamine and hydroxynorketamine) and Pharmacodynamics

**Keywords**: Ketamine, Depression, Bipolar, Route, Pharmacokinetics

**SP-26**

**The Translational Approach for Antiglutamatergic Therapy for Mood Disorders.**

Rodrigo Machado-Vieira
Department of Psychiatry and Behavioral Sciences, Health Science Center in Houston, University of Texas, USA

(R,S)-ketamine (ketamine) and its enantiomer (S)-ketamine (esketamine) can produce rapid and substantial antidepressant effects. However, individual response to ketamine/esketamine is variable, and there are no well-accepted methods to differentiate persons who are more likely to benefit. Numerous potential peripheral biomarkers have been reported, but their current utility is unclear. Examining the association between baseline levels and longitudinal changes in blood-based biomarkers, and response to ketamine/esketamine. In a longitudinal analysis, ketamine responders had statistically significant increases in brain-derived neurotrophic factor (BDNF) when compared to pre-treatment levels, whereas non-responders showed no significant changes in BDNF levels. Baseline subcortical volumes implicated in MDD did not correlate with ketamine's antidepressant efficacy. Baseline thalamic volume and BDNF genotype may be a combinatorial rapid antidepressant response biomarker.

**Keywords**: Translational Psychopharmacology, Antiglutamatergic, Ketamine, Depression, Bipolar

**SP-27**

## Specificity versus Spectrum Concepts of Psychiatric Diagnostic Entities: Application of Genetic Epidemiologic Approaches

Kathleen R. Merikangas
Genetic Epidemiology Research Program, Intramural Research Program, National Institute of Mental Health, USA

Objective: The aim of this presentation is to describe the patterns of specificity and coaggregation of the mood disorder spectrum and comorbid conditions in contemporary family studies and molecular genetic studies. Material and Methods: Data from the Lausanne-Geneva Family Study of Mood Disorder Spectrum and other recent family and offspring studies are presented to illustrate methods to test diagnostic specificity and identify core domains underlying these conditions. Comparative data from registry and biobank data on common and unique genetic architecture for mood and other disorders are presented. Results: Data from the NIMH-Lausanne showed specificity of some of the broad diagnostic entities including Psychosis and Bipolar Disorder but overlap in Major Depression and Anxiety disorders that tend to co-aggregate in families. High Risk research showed that there are diverse developmental manifestations of multiple systems including attention, circadian rhythms and anxiety that precede the onset of bipolar disorder. By contrast, there is much greater diagnostic overlap in data from registry and biobank studies. Conclusion: This work highlights the differences in specificity of mood and other mental disorders derived direct interview studies with systematic ascertainment of families compared to molecular genetic studies that primarily rely on treatment samples. Findings indicate the importance of comprehensive evaluation of patterns of comorbidity and developmental manifestations of disorders are critical to our understanding of the specificity and cross-diagnostic manifestations of psychiatric diagnostic entities.

**Keywords**: Mood disorders, Anxiety disorders, Family study, Biobank study

**SP-28**

**Evolution of Psychopathology in Offspring of Parents with Mood Disorder Subtypes**

Martin Preisig
Lausanne University Hospital Center, Switzerland

Objective: Using prospective data on the offspring of patients with bipolar disorder (BPD) and major depressive disorder (MDD) as well as clinical controls, our aims were to determine the specificity of 1) the parent-child transmission of BPD and MDD, and 2) psychopathology that emerged prior to the onset of BPD and MDD in offspring. Material and Methods: Clinical information was collected on 163 offspring of parents with BPD, 128 offspring of parents with MDD and 158 offspring of comparison probands. Given the strong impact of the age of onset of parental disorders on their transmission to children, parental disorders were dichotomized according to the onset (cut-off 21 years). Children were 6-17 years old at study entry (mean age: 10.1 years). Offspring and their parents were directly interviewed every 3 years with a mean duration of follow-up of 13.2 years. Results: Only early-onset BPD in parents was associated with the risk of BPD in their children, whereas only early-onset MDD in parents was associated with the risk of MDD in their children. Within the whole cohort of offspring, major depressive episodes, conduct disorder and drug use disorders predicted the onset of (hypo)manic episodes, whereas MDD in offspring was predicted by separation anxiety disorder, generalized anxiety disorder and panic disorder. Conclusion: Our data confirm the strong specificity of the parent-child transmission of both BPD and MDD. Moreover, MDD and BPD are also likely to have distinct psychopathological precursors.

**Keywords**: Major depressive disorder, Bipolar disorder, High-risk study, Anxiety disorders

**SP-29**

## Affective Dynamics of the Mood Circumplex across Development: Real Time Tracking of Mood Disorder Subtypes

Mathilde M. Husky
University of Bordeaux, Bordeaux Population Health Research Center, France

Objective: To examine whether the dynamics of the four dimensions of the circumplex model of affect differ among those with Bipolar-I, Bipolar-II, and Major Depressive Disorder (MDD) finer-grained characterization of affective dynamics in mood disorders. Material and Methods: Participants aged 11-85 years (n=362) completed reports of momentary sad, anxious, active, and energetic dimensional states four times per day for two weeks using ecological momentary assessment (EMA). Individuals with lifetime mood disorder subtypes of Bipolar-I, Bipolar-II, and MDD derived from a semi-structured clinical interview were compared to controls without a lifetime history of psychiatric disorders. Random effects from individual means, inertias, innovation (residual) variances, and cross-lags across the four affective dimensions simultaneously were derived from multivariate dynamic structural equation models. Results: There were distinct patterns of both the stability, fluctuations and cross domain associations among the subtypes of mood disorders between episodes. All mood disorder subtypes were associated with higher levels of sad and anxious mood, and lower energy than controls. People with MDD experienced a feedback loop of cross-reactivity between sad and anxious levels, as well as a drop in energy after increased sadness. Conclusion: These findings demonstrate differences in the affective dynamics of BD compared to MDD between episodes. These patterns have potential implications for both specificity of intervention targets and differential pathways underlying these dynamic affective systems. Confirmation of the longer-term stability and generalizability of these findings in future studies is necessary.

**Keywords**: Bipolar I, Bipolar II, Major depressive disorder, Ecological momentary assessment

**SP-30**

**Rhythms of Activity and Sleep as Trait Markers of Subtypes of Major Depressive Disorder**

Jennifer Glaus
Division of Child and Adolescent Psychiatry, Department of Psychiatry, Lausanne University Hospital Center, Switzerland

Objectives: The aim of this study was to examine the associations of major depressive disorder (MDD) and its subtypes (atypical, melancholic, combined, unspecified) with actigraphy-derived measures of sleep, physical activity and circadian rhythms. Additionally, we aimed to determine whether these associations reflect traits or states by subdividing MDD into current and remitted disorders. Material and Methods: The sample consisted of 2317 participants recruited from an urban area who underwent comprehensive somatic and psychiatric assessments. MDD and its subtypes were assessed using semi-structured diagnostic interviews. Sleep, physical activity and circadian rhythms were measured by actigraphy. Results: Current atypical MDD was associated with a later sleep midpoint, higher variability of sleep duration, and low inter-daily stability. In contrast, remitted unspecified MDD was associated with late sleep midpoint. Additionally, current unspecified, remitted atypical and remitted melancholic MDD were associated with lower activity levels. Conclusion: Our findings confirm associations of MDD and its atypical subtype with sleep and physical activity. The associations of atypical MDD with sleep and inter-daily stability, and between unspecified MDD and activity were state-dependent, whereas the later sleep midpoint in remitted unspecified MDD and the low activity levels in remitted atypical and melancholic MDD were likely to reflect stable traits. These differential sleep and activity patterns provide additional support for the pertinence of subtyping MDD, which may enhance both accuracy of prognosis and the choice of an adequate treatment in patients with this disorder.

**Keywords**: Major depressive disorder, Actigraphy, Sleep, Physical activity, Circadian rhythm, Atypical, Melancholic

**SP-31**

**Neurocognitive intervention targets for depression**

Roland Zahn
IoPPN, King's College London, UK

In a recent randomized fMRI neurofeedback trial tackling self-blame in major depressive disorder (Jaeckle et al., 2021), we found that patients with anxious distress responded worse to our neurofeedback training than non-anxious MDD. Our neurofeedback target of right anterior temporal-subgenual cortex (BA25) hyperconnectivity for self- relative to other-blame was based on previous studies showing its prospective association with recurrence risk in fully remitting MDD (Lythe et al., 2015). The anxious MDD group exhibited higher levels of anger directed towards others (i.e. other-blame), which could have reduced the self-blame-selectivity of negative feelings in these patients, thereby rendering our self-blame-selective training target less relevant. It was therefore crucial to understand the neural architecture of self- and other-blame-related feelings in anxious MDD, due to its association with treatment-resistance. Our recent pre-registered prospective study in treatment-resistant and largely anxious MDD addressed this question and showed, as predicted, that individuals with self-blame-selective right anterior temporal-subgenual cortex (BA25) hyperconnectivity had a better prognosis, whereas those with higher amygdala responses to sad vs. happy faces showed a poorer prognosis in this primary care population. We conclude that this individual neurocognitive variability calls for an individualized and stratified approach to defining neurocognitive treatment targets in MDD which could be implemented using adaptive trial designs. For example, MDD subgroups with early life trauma, previously shown to have reduced positive memory biases, could benefit more from the recently developed amygdala neurofeedback for positive autobiographical memories in MDD, whereas patients with non-anxious forms of MDD may benefit more from self-blaming bias-based neurofeedback. fMRI neurofeedback could also be replaced by other technologies such as functional near infra-red spectroscopy and neurostimulation methods such as tDCS or rTMS could be used to target the cortical areas close to the skull surface, thus indirectly modulating subcortical circuits, or using virtual reality-based interventions to target self-blaming biases.

**Keywords**: guilt; neurofeedback; MDD; trial

**SP-32**

**Neurocognitive intervention targets for trauma-related disorders**

**Christian Schmahl**
**Central Institute of Mental Health, Germany**

Amygdala-prefrontal circuits may be a target for neuromodulatory interventions. After successful therapy, patients with trauma-related disorders such as Posttraumatic Stress Disorder (PTSD) or Borderline Personality Disorder (BPD) exhibited changes in brain activity, pointing to reduced hypersensitivity of limbic brain regions such as the amygdala and increased prefrontal brain activity. Real-time fMRI neurofeedback (rtfmri-NF) has recently become a focus of clinical psychiatry and psychotherapy research, with pioneering studies providing initial evidence that it might play a promising role in future therapies for chronic pain, and mental disorders such as depression, schizophrenia, and phobias. We investigated whether participants would be able to down-regulate their amygdala response to aversive pictures when they were provided with continuous feedback from this region and rtfmri-NF was associated with successful down-regulation of the amygdala response and improvement of amygdala-prefrontal connectivity in healthy participants as well as in BPD and PTSD patient groups. A one-arm clinical study in patients with BPD revealed significant improvement in emotion regulation and reductions in affective instability in daily life after rtfmri-NF in BPD. The treatment affected emotion processing on several systems levels, including psychophysiology, behavior and subjective experience. We will soon test the clinical effectivity of amygdala-based rtfMRI-NF-based amygdala-neurofeedback training in a multi-center trial in BPD patients.

**Keywords**: amygdala-based neurofeedback, borderline personality disorder, posttraumatic stress disorder

**SP-33**

**Neurocognitive intervention targets for mood instability and self-harm**

Martina Di Simplicio
Imperial College London, UK

Mental imagery-based cognition has been shown to amplify emotion and motivation. Growing evidence suggest its role in maintaining symptoms across psychopathology and offering a target for novel interventions. Self-harm behaviour is a transdiagnostic phenomenon with prevalence having reached 20% of young people under the age of 25 and increasing over the last decade. It is associated with poor functional outcomes and risk of suicide, but there remains an urgent need for effective early interventions addressing self-harm before severity escalates. Mental imagery of self-harm is common and contributes to the urge to engage in the behaviour, offering a potential target for novel interventions. We will present experimental findings suggesting that imagery of self-harm is associated with higher incentivisation of self-harm cues on an incentive delay task. We will then discuss a new brief imagery-based cognitive intervention called Imaginator, supported by a digital app co-produced with young people. Imaginator trains individuals to develop adaptive motivational mental imagery of coping strategies alternative to self-harm that supports behaviour change. We will present data from two pilot studies showing preliminary evidence that Imaginator can reduce self-harm behaviour in young people aged 12-25. Finally, we will consider whether including direct manipulation of self-harm imagery via a cognitive technique called Imagery Re-Scripting may provide adjunctive benefit, based on current experimental work and previous studies using this approach in mood instability and bipolar disorder.

**Keywords**: self-harm behaviour, mental imagery, digital interventions

**SP-34**

**Neurocognitive intervention targets for bipolar disorders**

Rebecca Strawbridge
IoPPN, King's College London, UK

Cognitive deficits are now known to be a key contributor to disability for people with bipolar disorders, having deleterious effects on everyday functioning and reduced subjective wellbeing, impeding full recovery. Ameliorating cognitive impairment is increasingly being highlighted as a necessary strategy to improve overall illness outcomes. Cutting edge research is now exploring interventions to do so. This presentation will cover some of the most promising cognitive enhancement interventions, from pharmacological treatments (e.g., stimulants and dopamine agonists) to non-invasive brain stimulation and psychosocial therapies (e.g., cognitive remediation therapy). The evidence base to date remains sparse with methodological challenges and heterogeneous findings. It can be argued, however, that optimism is warranted. For example, cognitive remediation therapy (CRT) has accrued a substantial evidence base for people with psychoses, to the extent that it is now starting to be offered clinically. CRT is also showing promise for people with bipolar disorders, although adequately-powered trials are needed to establish the size and durability of its efficacy. The session will present findings from the largest CRT randomised controlled trials to date, including preliminary indications that this intervention can provide broad benefits to even people affected by bipolar disorder who do not display objective deficits in cognitive performance, as is often suggested. The session will also consider on putative mechanisms of cognitive remediation and potential mediators and moderators of short- and long-term therapy outcomes.

**Keywords**: bipolar disorders, cognitive remediation, functional recovery

**SP-35**

**Anhedonia: From Reward Processing to Therapeutic Targets**

Sidney Kennedy
University of Toronto and Homewood Research Institute, Canada

Overview  Professor Argyris Stringaris will provide an overview of progress in brain mapping of reward processing components and their relationship to anhedonia. This has implications for the development of treatments that can target specific aspects of anhedonia. In addition to reviewing the neurobiology of anhedonia, he will highlight the importance of social and societal basis of reward and punishment on neuroscience. Professor Ciara McCabe will address anhedonia in adolescents. She will present evidence of blunted neural responses to reward in adolescents with depression and explore brain responses to both reward and aversive stimuli in adolescents at risk for depression. This includes probing fMRI responses to anticipatory and consummatory aspects of anhedonia. She will also describe the use of digital apps to perform 'experience sampling' in everyday life of adolescents with depression.  Professor Giovanni Martinotti will take a transdiagnostic approach to anhedonia-focussing on mood disorders, schizoph

**Keywords**: Anhedonia, Reward Processing, Dopamine and Opioid pathways, adolescents

**SP-36**

**Anhedonia in adolescence**

Ciara McCabe
University of Reading, UK

Adolescence is a period of change that crucially increases vulnerability to depression. Studies report blunted neural responses to reward that relate to positive affect and depression symptoms in adolescents. However how these results relate to the symptom of anhedonia (lack of pleasure and interest) in adolescents is not entirely clear. We have been examining how the brain responds to reward and aversion in those at risk of depression and adolescents with depression and anhedonia symptoms. Using fMRI we have shown how different components of reward and aversion processing such as the anticipation and consummation relate to anhedonia. We have also begun to measure effort for reward as a proxy for motivational deficits in depression. Our work shows that there are blunted brain responses to reward and aversion in adolescents with symptoms of depression and reduced physical effort. However, how the dimensional experience of anhedonia correlates with the subcomponents of reward processing in daily life is unknown. Recently we have begun to use 'experience sampling' methodology to assess the human reward process in adolescents with depression in daily life using a smart phone app. The goal is to reveal the determinants of active behaviour and positive mood in real life in young people. Knowing this can help us develop new interventions for anhedonia.

**Keywords**: Anhedonia, Adolescence, experience sampling, digital apps

**SP-37**

**Anhedonia: A transdiagnostic perspective with a focus on Substance Use Disorders.**

Giovanni Martinotti
University of Chieti-Pescara, Italy

Anhedonia is a condition in which the capacity of experiencing pleasure is totally or partially lost, frequently occurring in mood disorders, as a negative symptom in schizophrenia, and in substance use disorders. From a psychobiological perspective, several researchers have proposed that anhedonia has a putative neural substrate, the dopaminergic mesolimbic and mesocortical reward circuit, which involves the ventral tegmental area, the ventral striatum and part of the prefrontal cortex. Although anhedonia is regarded as an important symptom in psychopathology, so far it has received relatively little attention. Anhedonia frequently occurs in mood disorders, as a negative symptom in schizophrenia, and in substance use disorders. In particular, we focus our attention on the relationships occurring between anhedonia and substance use disorders, as highlighted by many studies. Several authors suggested that anhedonia is an important factor involved in relapse as well as in the transition from recreational use to excessive drug intake. In particular, anhedonia has been found to be a frequent feature in alcoholics and addicted patients during acute and chronic withdrawal as well as in cocaine, stimulant, and cannabis abusers. Furthermore, in subjects with a substance dependence disorder, there is a significant correlation between anhedonia, craving, intensity of withdrawal symptoms, and psychosocial and personality characteristics. Therefore treating anhedonia in detoxified alcohol-dependent subjects could be critical in terms of relapse prevention strategies, given its strong relationship with craving.

**Keywords**: Anhedonia, substance use disorder

**SP-38**

**Emotional bias: A Core Dimension of Mood States. New Findings on Its Mechanism**

Henry Chantal
Université de Paris cite, France

By developing a translational test, we have shown that is it possible to reproduce in a mouse model of depression a negative bias in odor valence assignment as we have previously found in bipolar depressed patients. Opposite alterations in basolateral amygdala (BLA) to the Nucleus Accubens (NAc) and BLA to Central Amygdala neurons activity correlate with these biases. Furthermore, the activation of BLA-to-NAc circuit was sufficient to reverse the negative hedonic bias in the mouse model of depression. The next step is to see in depressed patients if the restoration of emotional biases and its neural correlates are necessary for a good response to treatments. These studies show that emotional biases are an essential dimension in mood disorders and that it is possible to study them in humans and animals, unlike mood. Moreover, this work allows us to better understand the essential role of the amygdala in the attribution of both positive and negative valences to emotional stimuli. It is important to note that this mechanism seems to be common to all stimuli and that the amygdala therefore has a central role in giving a negative or positive tone to the whole environment. Based on very recent data from the field of neuroscience, we propose a new model for bipolar thymic states based on emotional processes and not on mood.

**Keywords**: emotionnal bias ; amygdala ; dimensional approach

**SP-39**

**Innovative Blood Test to Differentiate MDD from Bipolar Depression in Patients**

Weissmann Dinah
ALCEDIAG, France

In clinical practice, differentiating bipolar disorder (BD) from unipolar depression is challenging due to the depressive symptoms, which are the core presentations of both disorders. Patients with BD are often misdiagnosed during depressive episodes resulting in a delay of more than 7 years in proper treatment and a poor management of their condition. Bipolar disorder diagnosis is made using clinical evaluations. Complementary tools are needed to assist and improve diagnosis. Recent studies have shown an association between depression and RNA alterations by epitranscriptomic mechanisms. One of the most studied processes occurring at the RNA level is the Adenosine to Inosine deamination, that has been shown to be modified in several neuro-psychiatric disorders. From a discovery cohort, we identified eight blood biomarkers using an editome analysis that analyzed significantly different RNA editing events between controls and patients with depression. We then performed a clinical study with 255 patients, either bipolar or unipolar depressed, and did a differential test using these biomarkers combined with artificial intelligence and a proprietary algorithm. The test allowed a differential diagnosis of BD from unipolar depression with high specificity (Sp=80.0%) and sensitivity (Se=82.1%). This performance was replicated on an independent cohort (n=143) with performance of 80.8% of specificity and 86.4% of sensitivity. These results show that RNA editing blood biomarkers can differentiate between unipolar and bipolar depressed patients. These BMK may be crucial to improve BD diagnosis and orientate the treatment therefore addressing the needs of millions of patients suffering from misdiagnosis and incorrect treatment.

**Keywords**: Bipolar disorder ; Blood biomarkers ; RNA editing

**SP-40**

**EDIT-B test the new frontier of diagnostics in psychiatry**

Maurizio Ferrari
Synlab Italia srl, Italy

New technologies have led to the development of several custom tests and epigenetics in psychiatry is now a reality. Epigenetics is a branch of genetics that is now attracting attention concerning human disease conditions. The environment, lifestyle, nutrition, and psychological factors impact the epigenetic machinery. One of the epigenetics mechanisms is RNA editing, which is a post-transcriptional modification of an RNA sequence. Here we introduce the EDIT-B test, a new epigenetic-based test, which aims to improve the diagnostic workflow in psychiatric disorders. The test helps the clinician in the differential diagnosis of bipolar and major depressive (unipolar) disorder. EDIT-B test has been introduced in the diagnostic laboratory at Synlab in Italy. Synlab is the most important provider of diagnostic services in Italy and offers several laboratory medicine services for patients and doctors in public and private facilities. The Central Laboratory, located in Castenedolo, performs over 20 million tests per year in all the fields of modern laboratory medicine also including Pharmacogenetics, Oncogenetics, Nutrigenetics, Virology, and Microbiology. EDIT-B is an IVD qualitative test that help the physician in diagnosing bipolar or unipolar depressed patients, combining the RNA editing profile of 8 biomarkers with patient information. The test is based on NGS analysis performed on Illumina® platform. The editing profile, consisting of the modification of adenosine to inosine (A to I), is obtained by sequencing of specific regions in the target biomarkers. A to I is a common type of RNA editing, catalyzed by ADAR (adenosine deaminase acting on RNA), which leads to post-transcriptional modification regulating protein function. Raw data are interpreted by CE-IVD ALCEDIAG proprietary software. The sensitivity and specificity are respectively 82.1% and 80.0%. We expect that this test will be used in many cases and that it will provide important support to the diagnostic process of multifactorial psychiatric disorders.

**Keywords**: epigenetic ; high throughput sequencing ; artificial intelligence

**RS-03**

**A multivariate approach to structural and functional brain imaging signatures of bipolar disorder**

Rositsa Paunova [1], Drozdstoy Stoyanov [1], Cristina Ramponi [2], Adeliya Latypova [2], Ferath Kherif [2]
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[2]Centre for Research in Neuroscience, Department of Clinical Neurosciences, CHUV—UNIL, Lausanne, Switzerland

**Objective:** In the current study we aimed to investigate the association between structural and functional brain signatures using structural covariance method to investigate connectivity patterns as potential differential diagnostic markers for bipolar disorders compared to other mental disorders.

**Material and Methods**: We used T1w images from 164 subjects: Schizophrenia (n = 17), bipolar disorder (n = 25), major depressive disorder (n = 68) and a healthy control group (n = 54).

For the current study we used Multivariate Structural Covariance analyses to examine and compare the structural covariance derived from different structural MRI maps between different brain regions. From the structural MRI, we extracted the relevant anatomical features and calculated the structural covariance matrices for each group.

**Results** Our results showed significant differences in structural covariance The major regions involved in psychiatric disorders, such as the prefrontal cortex (PFC), hippocampus, and insula, were consistently observed in both major depressive disorder (MDD) and bipolar disorder (BD) groups. The structural covariance method allowed us to identify circuits as principal components and their modulation by functions, separating cortical and subcortical limbic regions (hippocampus, amygdala, cingulate). Regions characterized by greater contribution to the diagnosis of BD form a distributed network of structural alterations in several frontal (superior - SFG, middle – MFG and IFG, supplementary motor area – SMA, operculum, medial frontal cortex, posterior orbital gyrus), parietal (medial segment of the postcentral gyrus, angular gyrus, precuneus), and temporal areas (anterior and posterior insula, planum temporale, middle temporal gyrus), along with subcortical structures (pallidum, caudate and thalamus).

**Conclusion:** The results of our study suggest a different perspective to the psychiatric nosological classes and underpin the pathophysiological mechanisms of common symptoms of the disorders under investigation including perceptual, affective and cognitive disturbances.

# ORAL ABSTRACTS

**O-01**

## Repetitive Transcranial Magnetic Stimulation: standard vs accelerated protocol's efficacy on depressive core symptoms

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**OBJECTIVE:**
Repetitive Transcranial Magnetic Stimulation (rTMS) is an evidence-based treatment for Major Depressive Disorder. The standard, once-daily dosed, stimulation protocol and the novel accelerated approaches have shown similar efficacy on response and remission rates; little is known about the protocol best suitable for different psychopathological patterns. Our study aims at investigating whether the standard and accelerated (aTMS) protocols show different effects on depressive core symptoms.

**MATERIAL AND METHODS:**
We designed a randomized single-blinded trial. We recruited 22 unipolar and bipolar depressed inpatients fitting the DSM-5 criteria for a major depressive episode. Subjects are randomized 1:1 to get either the standard rTMS (group A) or the twice-daily dosed aTMS (group B) as add-on therapy to their antidepressant treatment. Depressive symptoms are evaluated at baseline and weekly with the 21-item Hamilton Depression Rating Scale (HDRS).

**RESULTS:**
Groups were homogeneous for age, diagnosis, and pharmacological treatment. RANOVA showed a significant improvement in HDRS scores for both groups ($p<0.001$), with no difference between groups at the end of the study (post-hoc $p=0.751$). The sample size is still insufficient to deepen the analysis on differences between groups for each item. We hypothesize a greater effect of aTMS in reducing feelings of guilt, suicide ideation and in ameliorating depressed mood and insomnia.

**CONCLUSION:**
Accelerated rTMS is helpful to address the practical limitations of standard protocol. A better understanding of the effectiveness that different rTMS protocols have on depressive core symptoms could help clinicians to offer more personalized and targeted care, based on the symptomatologic pattern shown by each subject.

**Keywords:** repetitive TMS, accelerated TMS, depression, bipolar disorder

**O-02**

## Do psychometrics matter? The effects of advanced psychometrics on antidepressant randomised trial outcomes

Frank Doyle, David Byrne, Fiona Boland
School of Population Health, RCSI University of Medicine and Health Sciences

**OBJECTIVE:**
Multiple sophisticated statistical techniques are used to evaluate psychometric scales. Psychometricians argue that such approaches are vital to improve assessment by reducing error, yet these techniques can provide conflicting results, are often ignored by practitioners, and there is limited evidence that these techniques actually make important differences to outcomes. We therefore aimed to determine whether applying psychometric analyses to individual patient data from depression treatment trials will demonstrate important differences in antidepressant treatment effects.

**MATERIAL AND METHODS:**
We conducted a secondary analysis of individual participant data from 20 antidepressant treatment trials from Vivli.org (n=6843) which used the Hamilton Rating Scale for Depression (HAM-D) as the outcome measure. Pooled data was analysed using confirmatory factor analysis, item response theory and network analysis, providing psychometrically-informed model scores to compare to original total HAM-D scores in multilevel models. Differences in trial effect sizes at 8 (range 4-12) weeks was the outcome of interest.

**RESULTS:**
The HAM-D performed poorly under psychometric evaluation, with only four of the original 17 items retained in an abbreviated model. Original treatment effects were small. None of the psychometrically-informed models yielded changes in trial effect sizes.

**CONCLUSION:**
In this the first large-scale application of psychometric analyses to randomised trials, there was no evidence the methods moderated treatment effects. However, this may be due to the small effects in included trials. If replicated, results suggest that the number of items in measurement scales, and thus respondent burden, could be significantly reduced without adversely impacting the power to detect treatment effects.

Funding: Irish Research Council #LoveIrishResearch

**Keywords:** Psychometrics, Antidepressants, Randomised Controlled Trials, Outcome Assessment, Individual Participant Data, Meta-analysis

**O-03**

## REDUCE (REviewing long term antiDepressant use by Careful monitoring in Everyday practice): randomised controlled trial

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**OBJECTIVE:**
To test GP, Internet, and psychologist telephone support for discontinuation of long-term antidepressants.

**MATERIAL AND METHODS:**
Non-inferiority cluster randomised trial in 131 group family practices. Population: 330 patients on antidepressants for >2 years, currently well, and willing to try supported discontinuation of treatment. Primary outcome: depression on the PHQ-9 at six months; Secondary outcomes: antidepressant discontinuation and quality of life at 6 and 12 months; and depression, anxiety, social functioning, withdrawal symptoms, wellbeing, enablement, satisfaction with care, service use and costs over 12 months.

**RESULTS:**
147 (82%) of 178 patients in intervention practices, and 127 (85%) of 159 controls, were followed up at 6 months. PHQ-9 scores were slightly higher in the control arm at 6 months: mean adjusted difference 1.07 (95% CI 0.09, 2.06; p=0.033). Antidepressant discontinuation at 6 months was slightly higher in the intervention arm, but not significantly: (45.5% versus 41.9% in the control arm); and quality of life was significantly better at 6 months. Over 12 months depressive symptoms and withdrawal symptoms were significantly fewer in the intervention arm; wellbeing and enablement were significantly better. There were no significant differences in anxiety, adverse events, or satisfaction.

**CONCLUSION:**
Quite high rates of discontinuation of long-term antidepressants are achievable through enabling patients who are ready to consider reducing them to get tapering advice and support from their family physicians. Tailored Internet and psychologist telephone support may help protect patients coming off long-term antidepressants against depressive and withdrawal symptoms, and lead to better quality of life, wellbeing and feelings of enablement.

**Keywords:** depression, antidepressants, primary care, discontinuation, withdrawal

**O-07**

**Ketamine alters anterior cingulate dynamics in depressed individuals**

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**OBJECTIVE:**
The anterior cingulate cortex (ACC) is an important locus of ketamine's antidepressant action. Importantly, the ACC is structurally and functionally heterogeneous and ketamine's effects may be subregion specific. We determined whether different ACC subregions are differentially modulated by intravenous subanaesthetic ketamine.

**MATERIAL AND METHODS:**
In the context of a double-blind, placebo-controlled crossover trial exploring clinical and resting-state fMRI effects of a single intravenous infusion of ketamine vs. saline placebo in unmedicated subjects with treatment resistant depression (TRD) vs. healthy volunteers (HV), we used seed-based functional connectivity analysis to determine differential changes in subgenual ACC (sgACC), perigenual ACC (pgACC) and dorsal ACC (dACC) connectivity.

**RESULTS:**
Ketamine differentially modulated sgACC-hippocampal, pgACC-posterior cingulate cortex and dACC-lateral parietal connectivity in TRD vs. HV. Post-hoc analysis of the TRD group showed that sgACC connectivity was most substantially modulated by ketamine vs. placebo, with changes to sgACC-hippocampal and sgACC-pgACC connectivity correlating with improvements in anhedonia symptoms. Whole-brain regression additionally demonstrated increases in sgACC-dACC connectivity were associated with post-ketamine improvements in anhedonia.

**CONCLUSION:**
These findings indicate ketamine's modulation of sgACC may be particularly important in ameliorating anhedonia symptoms. Accurate segmentation of the ACC is needed to understand the precise effects of ketamine's antidepressant action.

**Keywords:** ketamine, depression, anhedonia, cingulate, fMRI, RCT

**O-08**

## The role of Implicit and Explicit Self-Esteem in the relationship between Childhood Trauma and Adult Depression and Anxiety

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**OBJECTIVE:**
Self-esteem is an important psychological concept that can be measured explicitly (reflective processing) or implicitly (associative processing). The current study examined whether both forms of self-esteem were associated with childhood trauma (CT) and whether self-esteem mediated the known association between CT and adult depression/anxiety.

**MATERIAL AND METHODS:**
In 1479 adult participants of the Netherlands Study of Depression and Anxiety (NESDA), CT was assessed with a semi-structured interview, and explicit and implicit self-esteem with the Rosenberg Self-Esteem Scale and Implicit Association Test, respectively. Depression and anxiety symptoms were assessed with self-report questionnaires. Regression analyses were performed to determine the association between CT, its subtypes (neglect/abuse) and both explicit and implicit self-esteem. Finally, it was examined if implicit and explicit self-esteem mediated the relationship between CT and depression/anxiety symptoms.

**RESULTS:**
Participants with CT reported significantly lower explicit self-esteem compared to those without CT ($p$<.001). All CT types, except sexual abuse, were significantly associated with lower explicit self-esteem (all $p$<0.001). CT or specific CT subtypes were not significantly associated with implicit self-esteem (all $p$>0.05). Explicit but not implicit self-esteem mediated the relationship between CT and depression/anxiety symptoms.

**CONCLUSION:**
Persons with CT showed lower explicit (but no lower implicit) self-esteem in adulthood than persons without CT. Our results are consistent with the view that the relationship between CT and adult depression and anxiety can at least partly be explained by the impact of CT on individuals' (explicit) self-esteem. This is of clinical relevance as it points to explicit self-esteem as a potential relevant treatment target for people with CT.

**Keywords:** childhood trauma, explicit self-esteem, implicit self-esteem, depression, anxiety

**O-09**

## Diagnostic accuracy of deep learning using speech samples in depression: a systematic review and meta-analysis

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**OBJECTIVE:**
Current assessments for psychiatric disorders are often subjective and influenced by cognitive function, while deep learning (DL) could give objective diagnosis and provide service to individuals who are unable to complete traditional assessments due to practical barriers. This study aims to perform a systematic review and meta-analysis of the diagnostic accuracy of deep learning using speech samples in depression.

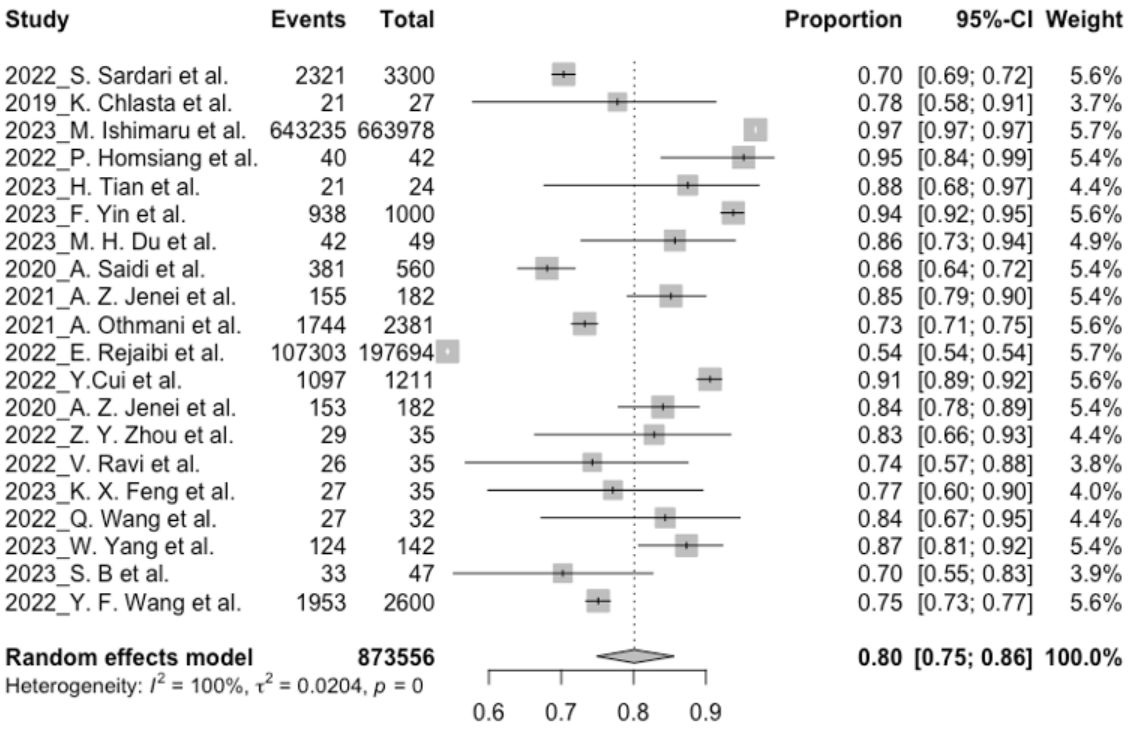
**MATERIAL AND METHODS:**
This review included studies reporting the diagnostic results of DL algorithms in depression using speech data, published from inception to June 12, 2023, on PubMed, Medline, Embase, Psyinfo, Scopus, IEEE, and Web of Science databases. Pooled accuracy, sensitivity and specificity were obtained by a random-effect model. Diagnostic Precision Study Quality Assessment Tool (QUADAS-2) was used to assess risk of bias.

**RESULTS:**
1556 records were identified, of which 20 studies were included in the systematic review and meta-analysis. The pooled classification accuracy for depression detection models was 0.80 (95% CI [0.75; 0.86], I^2 = 100%), and the pooled estimate of specificity was (0.85, 95% CI [0.79; 0.89],), with a low pooled sensitivity (0.79, 95% CI [0.72; 0.86]). When stratifying the studies by classification methods, the highest pooled diagnostic accuracy was 0.83 (95% CI [0.78; 0.88], I^2 = 99%) in the convolutional neural network (CNN) based methods.

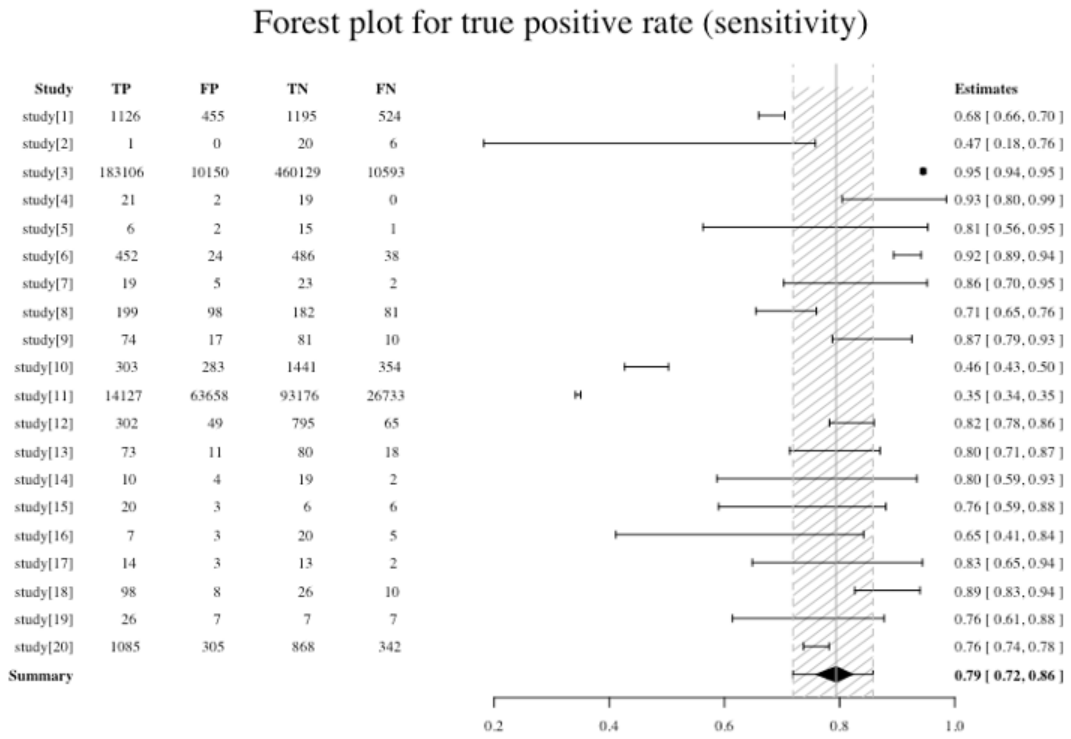
**CONCLUSION:**
Application of DL in speech provided a powerful tool for depression detection and help to aid clinical depression assessments. Future research could focus on novel DL methods testing on a variety of speech samples from cross-language depression datasets to improve the universality and practicability.

**Keywords:** depression, speech, deep learning, meta-analysis, systematic review

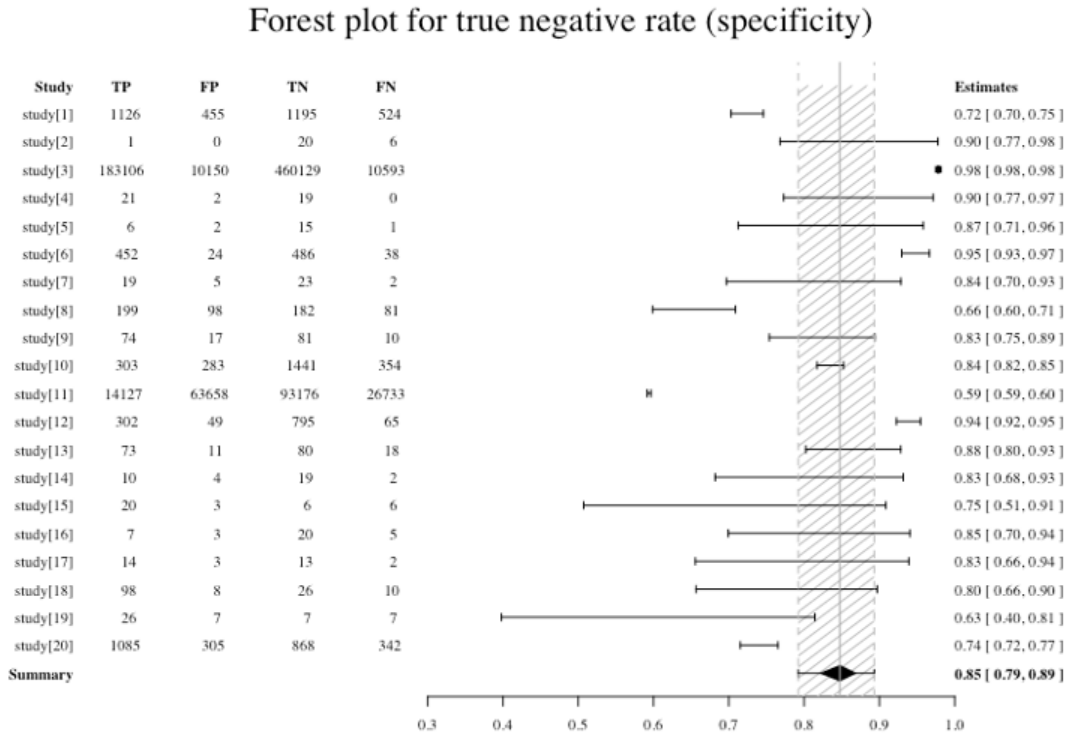
**Accuracy forest plot of total data**




**Sensitivity forest plot of total data**




**Specificity forest plot of total data**



**Meta-analysis Results**

| Subgroups | Categories | Basic Information | Basic Information | Accuracy | Accuracy | Accuracy | Sensitivity | Sensitivity | Specificity | Specificity |
|---|---|---|---|---|---|---|---|---|---|---|
| Subgroups | Categories | Number of Included Studies | Number of Included Samples | Sum. of Acc. | Sum. of 95% CI | Sum. of I^2 | Sum. of Sens. | Sum. of 95% CI | Sum. of Spec. | Sum. of 95% CI |
| Total | Total | 20 | 873556 | 0.80 | [0.75; 0.86] | 100% | 0.79 | [0.72; 0.86] | 0.85 | [0.79; 0.89] |
| Sample Size | Small | 9 | 326 | 0.83 | [0.78; 0.89] | 56% | 0.81 | [0.68; 0.90] | 0.84 | [0.73; 0.91] |
| Sample Size | Regular | 4 | 1066 | 0.81 | [0.72; 0.90] | 93% | 0.83 | [0.66; 0.93] | 0.79 | [0.62; 0.90] |
| Sample Size | Large | 5 | 10492 | 0.80 | [0.71; 0.90] | 99% | 0.75 | [0.57; 0.88] | 0.86 | [0.75; 0.93] |
| Sample Size | Huge | 2 | 861672 | 0.73 | [0.41; 1.00] | 100% | 0.73 | [0.43; 0.92] | 0.88 | [0.73; 0.91] |
| Datasets | DAIC-WOZ | 13 | 672675 | 0.81 | [0.75; 0.88] | 99% | 0.79 | [0.68; 0.87] | 0.87 | [0.81; 0.92] |
| Datasets | Others | 7 | 200881 | 0.78 | [0.69; 0.89] | 100% | 0.80 | [0.67; 0.90] | 0.79 | [0.67; 0.88] |
| Sample Type | Speeches | 13 | 873174 | 0.80 | [0.73; 0.88] | 100% | 0.82 | [0.73; 0.89] | 0.85 | [0.78; 0.90] |
| Sample Type | Speakers | 7 | 382 | 0.82 | [0.78; 0.86] | 0% | 0.73 | [0.56; 0.86] | 0.84 | [0.72; 0.92] |
| Features | Raw Speech | 1 | 3300 | 0.70 | [0.69; 0.72] | / | 0.65 | [0.21; 0.95] | 0.69 | [0.30; 0.94] |
| Features | Spectrograms-Based Features | 5 | 803 | 0.82 | [0.73; 0.93] | 94% | 0.82 | [0.63; 0.93] | 0.84 | [0.69; 0.93] |
| Features | LLDs-Based Features | 4 | 664095 | 0.81 | [0.69; 0;95] | 88% | 0.80 | [0.60; 0.93] | 0.85 | [0.69; 0.94] |
| Features | MFCC-Based Features | 4 | 2853 | 0.77 | [0.60; 0.98] | 100% | 0.74 | [0.52; 0.90] | 0.85 | [0.69; 0.94] |
| Features | Fusion Features | 6 | 202505 | 0.82 | [0.77; 0.88] | 88% | 0.80 | [0.63; 0.92] | 0.85 | [0.73; 0.93] |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Classification Methods | CNN-Based Method | 15 | 675699 | 0.83 | [0.78; 0.88] | 99% | 0.81 | [0.72; 0.88] | 0.88 | [0.83; 0.92] |
| Classification Methods | Others | 5 | 197857 | 0.72 | [0.61; 0.86] | 96% | 0.75 | [0.56; 0.89] | 0.70 | [0.53; 0.84] |
| Model Structure | End_to_End | 6 | 4103 | 0.80 | [0.71; 0.89] | 96% | 0.80 | [0.64; 0.91] | 0.81 | [0.69; 0.91] |
| Model Structure | Handcraft | 14 | 869453 | 0.80 | [0.74; 0.87] | 100% | 0.79 | [0.70; 0.87] | 0.86 | [0.79; 0.91] |

*Summary of meta-analysis results for different subgroups (Sum., Summary; CI, confidence interval; Acc., Accuracy; Sens., Sensitivity; Spec., Specificity)*

**O-10**

## Subjective cognitive impairment in bipolar disorder: predictors of discrepancy with objective cognition and association with functioning.

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**OBJECTIVE:**
Evidence suggests a poor correlation between objective and subjective cognition in bipolar disorder (BD). This study aimed to examine the extent and the direction of this discrepancy, as well as to identify factors contributing to this discrepancy and the potential association of this discrepancy with functioning.

**MATERIAL AND METHODS:**
80 euthymic participants with BD were assessed in objective cognitive performance and subjective cognitive complaints (Perceived Deficits Questionnaire; PDQ), and psychosocial functioning (Functional Assessment Short Test; FAST). An objective-subjective cognition discrepancy score was derived by subtracting objective performance scores from PDQ scores across four domains, with positive scores reflecting increasing overestimation and negative scores reflecting increasing underestimation of cognitive skills.

**RESULTS:**
Only 32.5% accurately estimated their own performance, with 8.8% overestimating and 58.8% underestimating their cognitive skills. There were no significant correlations between objective and subjective cognition across all domains. Higher premorbid IQ was associated with underestimating performance in attention ($\beta$=-0.274, $p<0.01$), working memory ($\beta$=-0.243, $p<0.05$), executive functioning ($\beta$=-0.341, $p<0.01$), and global cognition ($\beta$=-0.320, $p<0.01$), while increasing number of medications previously taken was associated with underestimating working memory skills ($\beta$=-0.263, $p<0.05$). Underestimation of attention and executive skills was associated with greater functional difficulties in multiple areas.

**CONCLUSION:**
A substantial discrepancy between objective and subjective cognition, erring towards underestimation of cognitive abilities, was observed in euthymic patients with BD. This may reflect diminished metacognitive skills or decreased cognitive control, resulting in negative self-appraisal. Considering potential decline from premorbid cognitive level may inform our understanding of this discrepancy between objective cognition and subjective complaints.

**Keywords:** Bipolar disorder, subjective cognition, objective cognition, metacognition, functioning.

**O-11**

## Healthcare utilisation and associated economic burden in treatment-resistant depression – a UK population-based cohort study

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**OBJECTIVE:**
The aim of this study was to assess and compare the healthcare resource usage and costs in patients with major depressive disorder (MDD) and treatment-resistant depression (TRD).

**MATERIAL AND METHODS:**
This was a retrospective analysis using a comprehensive dataset that links primary and secondary, routine and emergency healthcare records across Northwest London (Discover-NOW). Eligible patients were adults with a diagnosis of MDD who had been prescribed at least one antidepressant between 2015 and 2020.

**RESULTS:**
Of 110,406 eligible patients, 101,333 [92%] had MDD and 9,073 [8%] had TRD. Mean duration of depression was 52.8 (SD 41.7) months and 70.8 (SD 37.8), respectively ($p<0.0001$). Individuals with TRD had considerably higher primary care and emergency attendance rates, more inpatient hospitalizations, longer hospital stays, and greater total healthcare costs than MDD patients. Primary care usage was greatest overall (TRD mean 162 [SD 96] vs. MDD 108 [SD 90] visits per patient, $p<0.0001$; cost per patient £17,348 [SD £33,040] vs. £12,011 [£25,588], $p<0.0001$). In secondary care, accident and emergency visits accounted for the highest use (TRD mean 5.5 [10.6] vs. MDD 3.54 [SD 6.0] visits per patient, $p<0.0001$) while non-elective hospitalisations incurred the highest costs (mean £2,518 [£8,064] vs. £1,909 [SD £6,807], $p<0.0001$). Demand increased with the duration of depression and the number of lines of treatment and both psychiatric and physical health comorbidities were more common in TRD ($p<0.0001$).

**CONCLUSION:**
The study highlights the substantial burden associated with TRD in both primary and secondary care settings.

**Keywords:** treatment-resistant depression, major depressive disorder, healthcare resource, antidepressant

**O-12**

**Natural Language Response Formats for Assessing Depression**

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**OBJECTIVE:**
Recent advances in AI-based Large Language Models (LLM) can transform individuals' descriptions of emotional health into numeric representations that predict rating scales with an accuracy approaching theoretical upper limits. This advancement enables examing various open-ended response formats. We develop and evaluate formats ranging from closed to more open: 1) selecting descriptive words from a pre-defined list (the select format), and generating own 2) descriptive words (the word format), 3) descriptive phrases (the phrase format), or 4) descriptive texts (the text format).

**MATERIAL AND METHODS:**
Participants (*N* = 963) were recruited online to answer questions about their depression using the four response formats. They also completed depression rating scales, including the Patient Health Questionnaire-9 (PHQ-9). Language responses were first transformed into numeric representations using an LLM and then trained to predict the PHQ-9 using cross-validated ridge regression.

**RESULTS:**
The highest accuracy for the PHQ-9 score (Pearson correlation between out-of-sample predictions and observed scores) is achieved by combining all four formats (*r*=.76). In single-format predictions of the PHQ-9, the select format yields the highest (*r*=.73), followed by the phrase (*r*=.68), text (*r*=.68), and word (*r*=.67) formats. The select format has the fastest completion time (*median* = 30 sec), followed by the word (*median* = 67 sec), the phrase (*median* = 80 sec), and the text (*median* = 122 sec) formats.

**CONCLUSION:**
The response formats have advantages, with varying predictive accuracy on rating scales and different completion times. This provides the potential to select a response format according to situations and needs.

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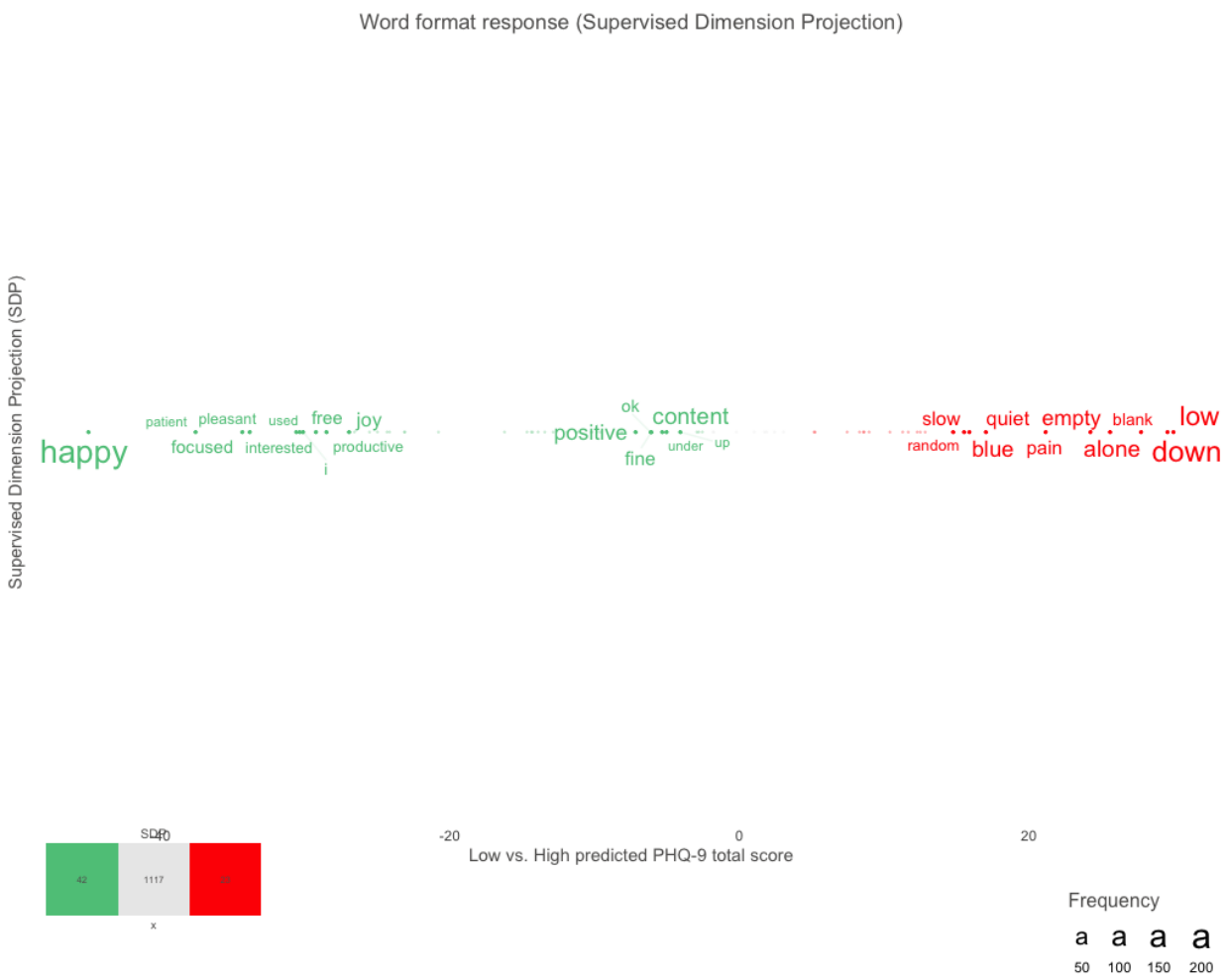
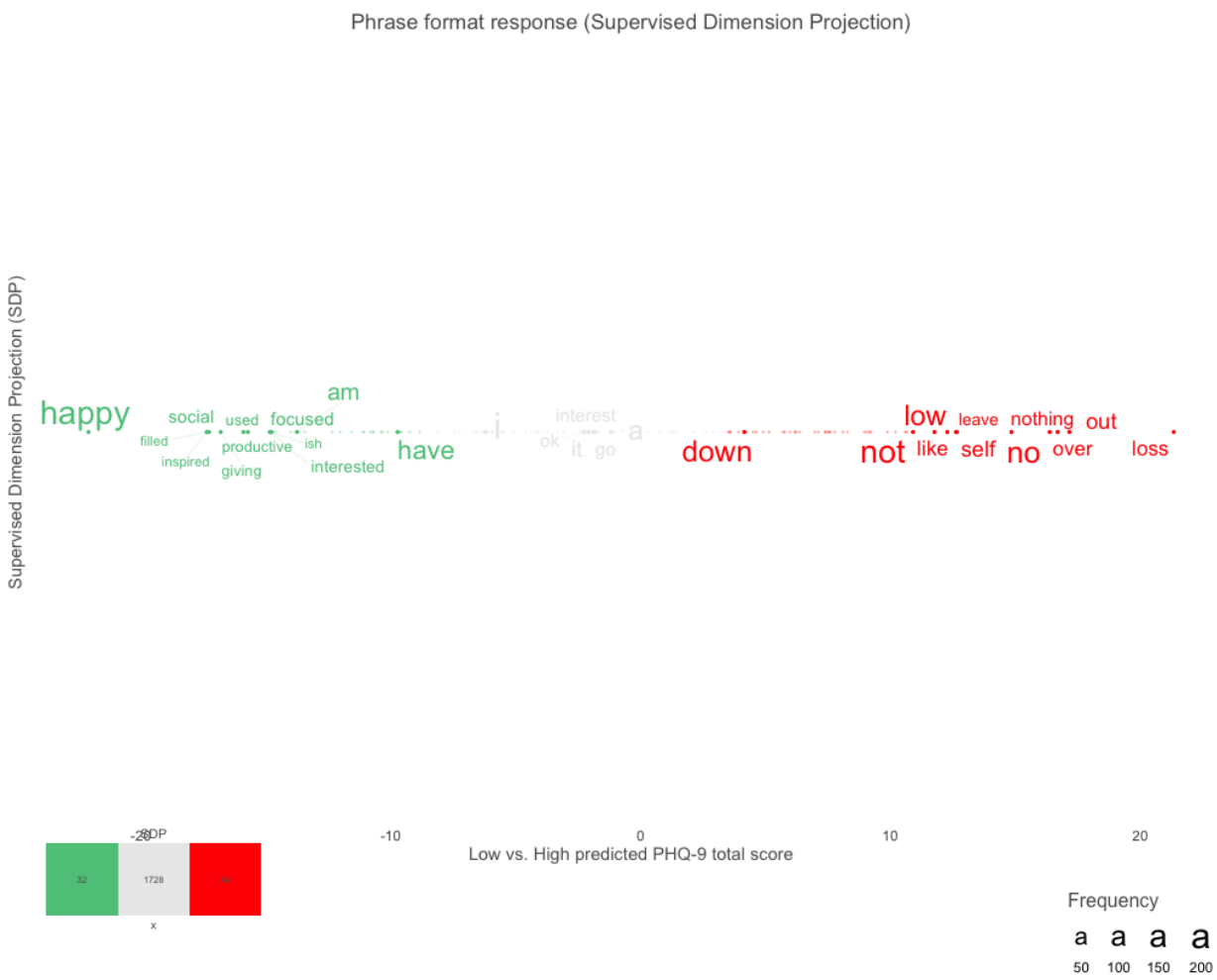
**Keywords:** artificial intelligence, natural language, natural language processing, assessment, mental health

**Figure 1. Supervised dimension projection of words in the word format**




*Statistically significant words (p<.05, False Discovery Rate adjusted) in the word format are projected onto the X axis, with predicted PHQ-9 total scores ranging from low to high.*

**Figure 2. Supervised dimension projection of words in the phrase format**




*Statistically significant words (p<.05, False Discovery Rate adjusted) in the phrase format are projected onto the X axis, with predicted PHQ-9 total scores ranging from low to high.*

**Table 1. Correlation between CLAs predictions and PHQ-9 using RoBERTa embeddings.**

| Response Format | Pearson correlation |
|---|---|
| Select + Word + Phrase + Text | .76 |
| Select | .73 |
| Word | .67 |
| Phrase | .68 |
| Text | .68 |

** The large language model is RoBERTa-large, with layers 23 to 24.*

# POSTER ABSTRACTS

**P-001**

## Patient-reported outcome measures for monitoring depression in primary care: cluster randomised controlled trial

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[2]University of Liverpool, UK
[3]University College London, UK
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[5]University of Leicester, UK
[6]London School of Hygiene and Tropical Medicine, UK

**OBJECTIVE:**
To test using the PHQ-9 questionnaire as a patient-reported outcome measure for monitoring progress of depression treatment in primary care.

**MATERIAL AND METHODS:**
Prospective cluster-randomised trial in 141 group general practices in England and Wales, with 529 patients aged 18+ with a new episode of depression. Administration of PHQ-9 PROM with patient feedback after diagnosis, and 10-35 days later, compared to usual care. Practitioners were trained in interpreting PHQ-9 scores and giving patients feedback on the implications for treatment.

**RESULTS:**
302 patients were recruited in intervention practices and 227 in controls. Primary outcome data were collected for 252 (83.4%) and 195 (85.9%) respectively. We found no significant difference in BDI-II score at 12 weeks (mean difference -0.46; 95% CI -2.16 to 1.26; p=0.60, adjusted for baseline depression, baseline anxiety, sociodemographic factors, and clustering including practice as a random effect). No significant differences were found either in BDI-II score at 26 weeks, social functioning, antidepressant drug treatment, contact with mental health services, adverse events, or patient satisfaction. EQ-5D quality of life scores favoured the intervention arm at 26 weeks (adjusted mean difference 0.053; 95% CI 0.093 to 0.013; p=0.01), with more participants in the intervention arm reporting no problem on the Anxiety/Depression subscale (50/221 (22.6%) versus 25/185 (13.5%) in the control arm).

**CONCLUSION:**
This study found no evidence of improved depression management or outcome at 12 weeks from feedback monitoring with the PHQ-9 in primary care but a small benefit in quality of life at 26 weeks. Future studies should include anxiety as well as depression.

**Keywords:** Primary Health Care, Mental Health, Mood Disorders, Depression, Patient Reported Outcome Measures

**P-002**

## Agomelatine bears promising potential in treating bipolar depression– A systematic review

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**OBJECTIVE:**
Bipolar depression is a severe condition needing timely and efficient treatment. Yet, the controversy of antidepressant application remains controversial. Agomelatine (AGO) is an effective antidepressant in major depressive disorder (MDD). With its known antidepressant effect through melatonin receptor agonism and serotonin receptor antagonism, agomelatine might be powerful in treating bipolar depression. However, persuasive evidence is lacked.

**MATERIAL AND METHODS:**
We conducted a systematic review about AGO trials for the treatment of bipolar patients. We searched PubMed, MEDLINE, Embase, and Cochrane for relevant studies published since each database's inception. We synthesized evidence regarding efficacy (mood and rhythm) and tolerability across studies.

**RESULTS:**
We identified 6 studies including 272 participants (44% female). All studies used 25-50mg AGO per day for treatment combined or not combined with mood stabilizers (MS). Across all 6 studies, there were improvements in depression evaluated by depression rating scores and response rate over time. The response rates varied from 43% to 91% within 6-12 weeks. Although AGO was found of better efficacy in bipolar depression compared to recurrent depression, its efficacy remains controversial. Surprisingly, most studies have shown AGO to be effective after just about a week. AGO was reasonably well tolerated both in acute and extension period, without obvious risk in inducing mood switching.

**CONCLUSION:**
AGO is promising in treating bipolar depression through mechanisms of melatonin receptor agonism and 5-hydroxytryptamine 2C (5-HT2C) antagonism, with significant efficacy and well tolerability. However, more strictly designed and large samples are needed in further trials with homogeneity within intervention and treatment groups.

**Keywords:** Bipolar depression, Agomelatine, systematic review

**P-003**

## Trauma-focused treatment for depressive patients with childhood trauma: design and rationale of the REStoring mood after Early life Trauma with psychotherapy (RESET-psychotherapy) study

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[2]Amsterdam UMC location Vrije Universiteit Amsterdam, Department of Psychiatry, Amsterdam, The Netherlands; GGZ inGeest Mental Health Care, Amsterdam, The Netherlands
[3]HSK, NL Mental Health Care Group, Hilversum, The Netherlands
[4]Altrecht GGZ, Utrecht, The Netherlands

**OBJECTIVE:**
Around 50% of depressive patients has experienced childhood trauma (CT). Patients with depression and CT are assumed to represent a clinically and neurobiologically distinct depression subtype with an earlier onset, unfavorable disease course, stress systems' dysregulations and brain alterations. Currently, there is no treatment strategy for depression that specifically targets CT. The primary objective of the RESET-psychotherapy study is to investigate whether trauma-focused treatment (TFT), as an adjunctive to treatment as usual (TAU) leads to more reduction of depressive symptoms at post-treatment when compared to TAU only in depressive patients with CT.

**MATERIAL AND METHODS:**
The ongoing RESET-psychotherapy study is a 12-week single-blind randomized controlled trial testing the efficacy of TFT in 158 adults with moderate to severe depression and CT. TFT (6-10 sessions of EMDR or imagery rescripting) + TAU is compared to TAU only. Assessments take place before randomization (baseline), during treatment, directly post-treatment and at 6 month follow-up to obtain information about depressive symptoms, remission and clinical and stress-related outcomes related to TFT response. Pre-post treatment stress-related biomarkers in hair (cortisol) and blood are assessed to better understand working mechanisms of TFT. To estimate the intervention effect across time, Linear Mixed Models will be used.

**RESULTS:**
The primary outcome measure is self-reported depression symptom severity at post-treatment, measured with the 30-item Inventory of Depressive Symptomatology – Self Report (IDS-SR).

**CONCLUSION:**
If TFT effectively alleviates depressive symptoms in depressive with CT, this novel treatment strategy could pave the way for a more personalized and targeted depression treatment.

**Keywords:** Depression, Childhood Trauma, Trauma-Focused Therapy, Imagery Rescripting, Eye Movement Desensitization and Reprocessing, Randomized Controlled Trial

**P-004**

**Thyroid dysfunction in patients of depression and anxiety and response to therapy**

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**OBJECTIVE:**
The study objective was to determine the thyroid profile in patients with depressive and anxiety symptoms and to determine the
change in symptoms with correction of thyroid profile.

**MATERIAL AND METHODS:**
This longitudinal observational study was conducted in patients presented with depressive or anxiety symptoms who visited the psychiatry out patient department (OPD) first time. Two groups were made based on the serum thyroid profile. First group, (n=27) was patients with depression and anxiety with hypothyroidism (experimental group) and second was (n=123) without hypothyroidism (control group). Experimental group, (n=27) was then exposed to thyroxine, 15 patients came for first follow up and 11 patients came for second follow up.

**RESULTS:**
The 63% of patients in the experimental group and 62.6% of patients in the control group were of female gender, 66.7% and 33.3% of patients in the experimental group had depressive disorder and anxiety disorder respectively. TSH level of 11 patients of experimental group had significantly less value in first follow up compared to entry point (p=0.002). Generalized anxiety disorder (GAD) 7 scores were significantly lower in first and second follow up than that of the entry point in 11 patients of experimental group (p=0.008, 0.016 respectively)

**CONCLUSION:**
Many patients of the clinical diagnosis of depression (17.6%) and clinical diagnosis of anxiety (18.75%) had hypothyroidism during the first visit to the psychiatry OPD. There was significant reduction in the hypothyroid patients of the serum thyroid stimulating hormone (TSH) value and anxiety scores during the follow up after treatment with levothyroxine

**Keywords:** : Anxiety disorder, Depression, Hypothyroidism, Levothyroxine

**P-005**

**Bipolar depression in pediatric population, a narrative review**

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**OBJECTIVE:**
The first mood episode in pediatric bipolar disorder (BD) is usually major depression (MD). Some youth who have a clinical picture compatible with MD have already had symptoms of mania or hypomania. The differential diagnosis between bipolar and unipolar depression has important implications for treatment.
AIM: to review the current literature on bipolar depression (BP) in the pediatric population to better address this condition in our daily clinical practice.

**MATERIAL AND METHODS:**
A narrative review of the literature was performed on Pubmed using the following words: [“Bipolar Depression”] AND [“Child” OR “Adolescent” OR “Pediatric Population”].

**RESULTS:**
Youth with a BP appear to have the following characteristics: high rates of psychiatric comorbidities and family history of psychiatric illness; greater severity of depression; higher levels of commitment and irritability; and early onset of mood symptoms.
The presence of psychosis or a family history of BD, particularly in a parent with early-onset BD, may indicate susceptibility to developing BD.
The presence of subsyndromal symptoms of mania, mania, or hypomania in response to antidepressant treatment that persist after antidepressant discontinuation and parental history of early-onset BD may indicate the presence of underlying BD.

**CONCLUSION:**
Most depressed youth seen in psychiatric settings are having their first episode of MD. However, the clinical manifestations of bipolar and unipolar major depression are similar, and it is very difficult to differentiate them even with close longitudinal follow-up. There for, all patients who initially present with MD should be evaluated for a history of mania or hypomania.

**Keywords:** bipolar disorder, major depression, bipolar depression, child, adolescent, pediatric population

**P-006**

**Physical comorbidity in Depressive Disorders**

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**OBJECTIVE:**
While physical comorbidities increase the risk of developing a Depressive Disorder, the latter also worsens the prognosis of the former. Patients with depression and physical disease have amplification of physical symptoms, lower quality of life and adhesion to treatment; higher functional deficit and suicide rates; prolonged hospitalizations and higher health associated costs. Since there is a high incidence of depression among different physical diseases, this review goal is to look which diseases have higher comorbid depression, how to better diagnose it and how to find the appropriated treatment concerning the several pharmacological interactions.

**MATERIAL AND METHODS:**
A review of the literature was done using Pubmed, "New Oxford Textbook of Psychiatry" (3rd ed), "The Maudsley Prescribing" (14th ed) and "Depression and physical illness – perspectives in Psychiatry" (volume 6).

**RESULTS:**
High rates of depression have been noted in patients with chronic renal disease (5-22%), oncological (0-38%), cardiovascular (10-40%), neurological (14%-60%) and endocrine (8-63%) disorders. The diagnosis is difficult because of overlapping symptoms and so it should focus on signs of psychological suffering, using suitable scales (for example, Endicott substitutive criteria). There is evidence for different psychotherapies, electroconvulsive therapy and pharmacological approaches, but attention must be paid to the all the pharmacological interactions and respective pharmacokinetics/pharmacodynamics.

**CONCLUSION:**
Depressive symptoms or disorders are frequent in physical disease and there is a complex and bidirectional association with impact on the quality of life, treatment and prognosis. Treatment options, especially the pharmacological ones, have to be adapted to the several possible pharmacological interactions and eventual complications of the physical disease.

**Keywords:** Depressive Disorders Physical disease Treatment approaches

**P-007**

## Testing Mechanisms of Change for Text-Message Delivered Cognitive Behavioral Therapy: A Randomized Clinical Trial for Young Adult Depression

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[2]Biobehavioral Health, Pennsylvania State University, University Park, USA
[3]College of Social Work, University of Kentucky, Lexington, USA

**OBJECTIVE:**
Young adults in the U.S. experience more Major Depressive Episodes and are the least likely to receive any treatment for depression compared to other age groups. To address this clinical need, we conducted a randomized clinical trial of our 8-week text-delivered cognitive behavioral therapy (CBT-txt) for depression with 103 U.S. young adults.

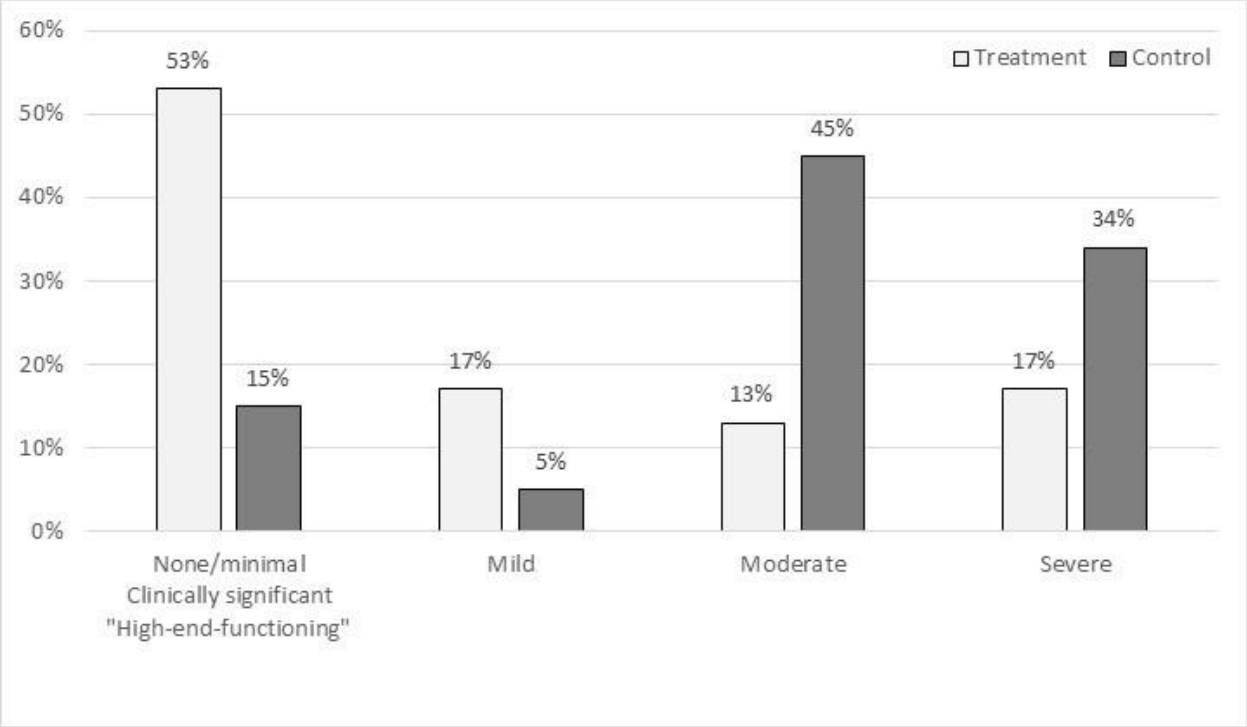
**MATERIAL AND METHODS:**
We tested the efficacy and 3 mechanisms of change for CBT-txt. Participants were from 34 states recruited from Facebook and Instagram, presenting with at least moderate depressive symptomatology. Severity of depressive symptoms was assessed using the Beck Depression Inventory II. Behavioral activation, perseverative thinking, and cognitive distortions were measured as mechanisms of change. Participants were randomized to CBT-txt or a waitlist control condition and followed for 3 months. Those assigned to the CBT-txt received 474 fully automated texts, delivered every-other-day over 64-days.

**RESULTS:**
Study participants in the CBT-txt group showed significantly larger decreases in depressive symptoms than those in the control group (P <.001 at each follow-up), producing a medium/large effect size (Cohen's d =.76). Over half of the treatment group (53%) moved into the clinically significant "high-end-functioning" category representing no or minimal depressive symptoms, compared to 15% of the control condition. Mediation analysis showed that CBT-txt led to greater increases in behavioral activation and greater decreases in cognitive distortions and perseverative thinking across the three-month follow-up period, which were then associated with larger baseline-to-3-month decreases in depression.

**CONCLUSION:**
Results provide robust evidence for the efficacy of CBT-txt to reduce depressive symptoms through hypothesized clinical mechanisms of change.

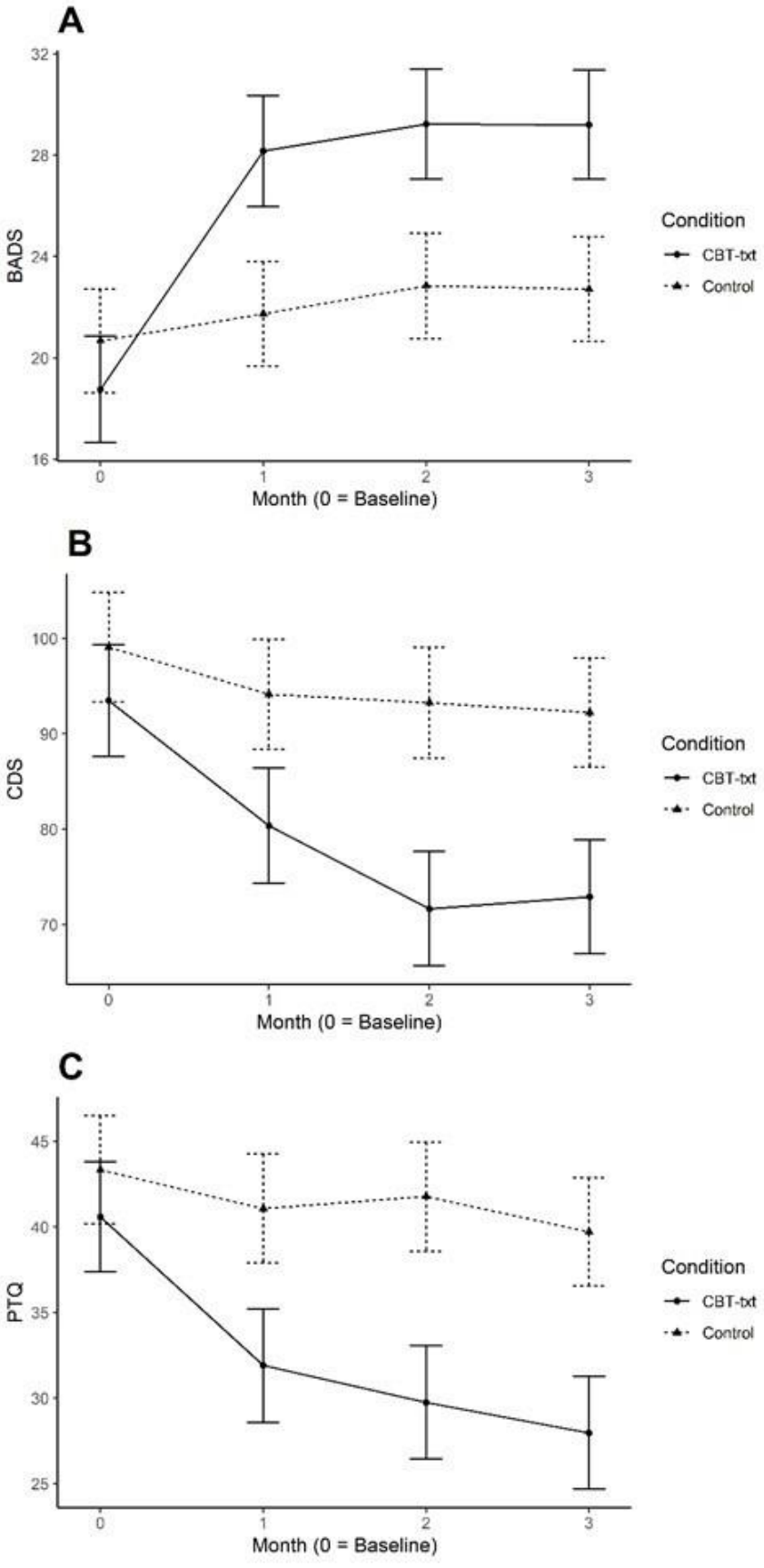
**Keywords:** Young adults; depression; text-delivered treatment; Cognitive behavioral therapy; Randomized clinical trial; mHealth treatment

**Depression severity levels**



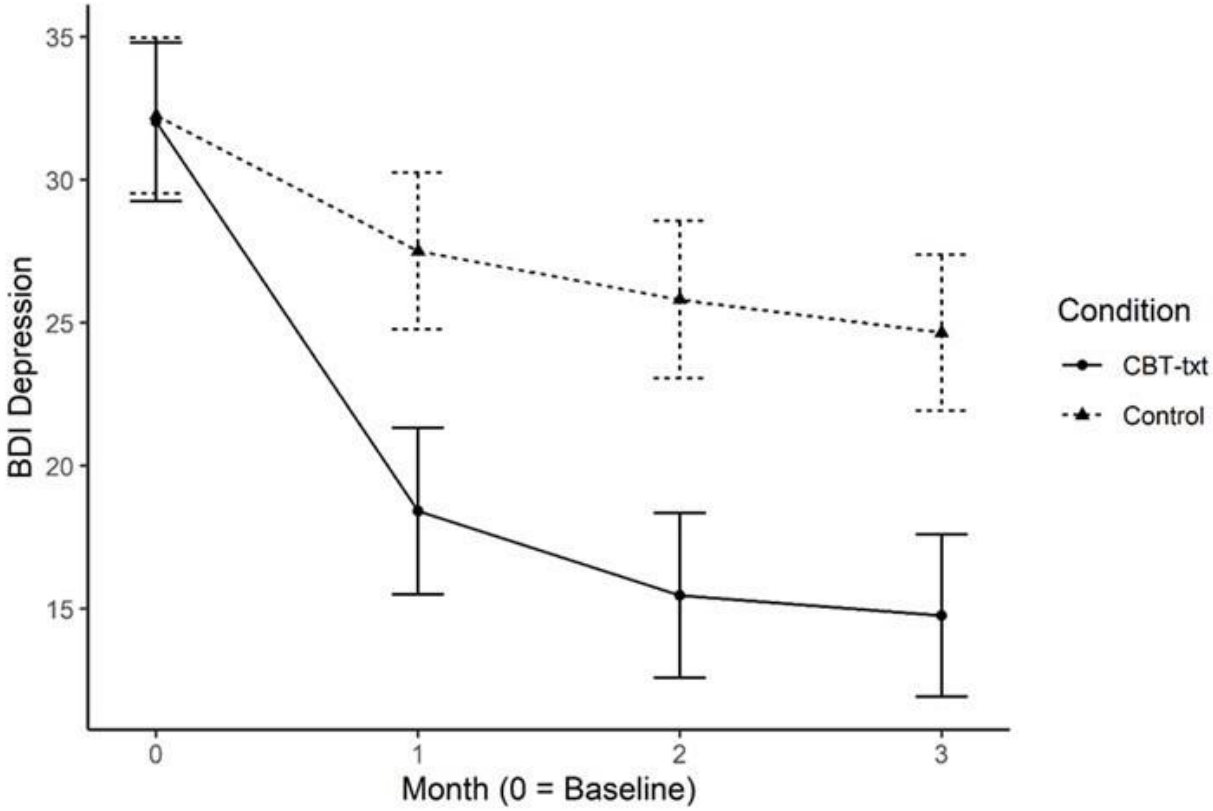

*Depression severity level (BDI-II categories) percentages at 3 months by condition. The none/minimal category represents clinically significant "High-end-functioning."*

**Mechanisms of change**


A
BADS
32
28
24
20
16
0
1
2
3
Month (0 = Baseline)
Condition
CBT-txt
Control
B
CDS
100
90
80
70
0
1
2
3
Month (0 = Baseline)
Condition
CBT-txt
Control
C
PTQ
45
40
35
30
25
0
1
2
3
Month (0 = Baseline)
Condition
CBT-txt
Control

*Mean scores of behavioral activation (BADS) panel A, cognitive distortion (CDS) panel B, and perseverative thinking (PTQ) panel C, measures over-time by condition.*

**Primary Outcome**




*Mean scores of the Beck Depression Inventory II scores over-time by condition.*

**P-008**

## The role of PHF21B in hippocampal neurotransmission, synaptic plasticity-related gene, and social memory

Ma Li Wong, Julio Licinio
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**OBJECTIVE:**
In rats, hippocampal Phf21b gene expression is significantly decreased after chronic restraint stress compared to controls non-stressed. The PHF21B (aka PHF4) gene is a member of PHD finger family of genes located in chromosome 22q13.31 encodes a histone reader and is expressed in several central nervous system (CNS) regions, such as the frontal cortex and the hippocampus but its brain functions remain unclear. We have characterized the behavior, functional, and molecular changes of a Phf21b knockdown mouse model.

**MATERIAL AND METHODS:**
Animal experiments were performed according to approved protocols by SUNY Upstate Medical University, South Australian Health and Medical Research Institute, and University of Adelaide. The following approaches were used – 1) Generation of a Phf21b mutant mice. 2) Behavior testing to evaluate the effects of Phf21b deficiency. 3) Long-term potentiation studies in CA1 pyramidal neurons. 4) Biochemical and molecular studies.

**RESULTS:**
Phf21b deficiency resulted in social memory deficits. They had increased social novelty in the 3-chamber social test ($P<0.01$) and decreased interaction time during the habituation trials in the 5-trial social memory test ($P<0.05$). They had impaired LTP (glutamatergic neurotransmission with reduced I/O relationship, $P<0.001$), and decreased GluN2B ($P<0.05$) and Grin2b ($P<0.01$) levels. PHF21B modulated the expression of neurotransmission genes. In the histone array assay, PHF21B regulates transcription through H3K9ac, H3K9Me2, and CREB, and it interacts with H3K36me3.

**CONCLUSION:**
Our studies suggest that PHF21B is a critical upstream regulator of synaptic plasticity-related genes. It has a role in social memory and may be a novel candidate target for the treatment of neurobehavioral disorders.

**Keywords:** Epigenetics, social memory, long-term potentiation, synaptic plasticity-related genes, transgenic mouse model

**P-009**

## Parenting in the early years and self-harm in adolescence: the roles of control and reward systems in childhood

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**OBJECTIVE:**
Research suggests that early parenting may contribute to the development of self-harm but this has not been examined longitudinally. In this study, we examined the associations between early parenting and self-harm in adolescence and considered whether emotion regulation and decision-making in childhood mediate the association between early parenting and self-harm.

**MATERIAL AND METHODS:**
Using longitudinal data from the Millennium Cohort Study, we tested mediation models exploring the role of early parenting in the development of self-harm in adolescence via emotion regulation and decision-making. Parenting was assessed at age 3 with measures of conflict, closeness and discipline. The trajectories of independence and self-regulation and emotional dysregulation were modelled from ages 3 to 7 years through latent growth curve analysis, with individual predicted slope and intercept values used in mediation models. Decision-making (deliberation time, total time, delay aversion, quality of decision making, risk adjustment, risk-taking) was assessed using the Cambridge Gambling Task (CGT) at age 11.

**RESULTS:**
In our sample (n=11,145), we did not find any evidence of a direct association between early parenting and self-harm in adolescence. However, there were indirect effects of parenting (conflict and closeness) on self-harm via the slope of emotional dysregulation. Furthermore, delay aversion in late childhood was positively associated with self-harm in adolescence.

**CONCLUSION:**
If these associations are causal, it supports intervention for children exhibiting chronic emotional dysregulation as well as decision-making characterised by a bias for smaller, immediate over larger, delayed rewards.

**Keywords:** self-harm, parenting, emotion regulation, decision-making, reward processing

**P-010**

## Suicidal behavior of patients with bipolar disorder with account for comorbidity with other mental disorders

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[2]Administration, Mental Health Research Institute, Tomsk, Russia

**OBJECTIVE:**
Comorbid mental pathology in bipolar disorder (BD) contributes to the self-destructive behavior of patients.

**MATERIAL AND METHODS:**
We examined 164 patients with a verified diagnosis of BD using a continuous method in a specialized psychiatric department. To assess the risk of suicidal behavior, the examined patients were divided into two groups depending on the presence of a history of suicidal attempts.
The first group included patients with a history of suicidal attempts in the amount of 42 persons aged 35.5 (25; 51). Of these, women were 64.3% (n=27). For suicidal purposes, patients used the following METHODS: self-hanging, self-poisoning, using piercing and cutting objects.
The second group consisted of patients without a history of suicidal attempts (n=122) at the age of 42.5 (30;55). The proportion of women was 72.1% (n=88).

**RESULTS:**
In the study sample, 83 patients (50.6%) had a mental disorder other than BD. At the same time, 28 patients (17.1%) had two comorbid mental disorders and 10 persons (6.1%) had three comorbid mental disorders. In the group of patients with a history of suicidal attempts, comorbid pathology associated with bipolar disorder was detected more often ($p<0.05$) than in the group without suicidal attempts (71.4% and 43.4%, respectively). Personality disorder (40.5% and 21.3%, respectively) and alcohol dependence (35.7% and 13.9%, respectively) were detected as comorbid pathologies more often ($p<0.05$).

**CONCLUSION:**
Thus, personality disorders and alcohol dependence in BD can be attributed to risk factors for suicidal behavior in patients.

**Keywords:** bipolar disorder, suicidal behavior, mental disorders

**P-011**

## The Role of COVID-19-associated Fear, Stress and Level of Social Support in Development of Suicidality in Patients Diagnosed with Affective and Stress-Induced Psychiatric Disorders During the COVID-19 Pandemic

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Medical Faculty, University of Novi Sad

**OBJECTIVE:**
Only a few studies seem to address suicidality as an effect of the COVID-19 pandemic in persons previously affected by psychiatric disorders. The relationship between fear and stress caused by the COVID-19 pandemic and the level of social support and suicidality in patients diagnosed with affective and stress-induced psychiatric disorders prior to the onset of the COVID-19 pandemic were investigated.

**MATERIAL AND METHODS:**
This study was observational and involved 100 participants. The examined period was from April 2020 to April 2022. The Fear of COVID-19 Scale (FCV-19S), the Oslo Social Support Scale 3 (OSSS-3) and general psychiatric interviews were used to obtain data.

**RESULTS:**
A statistically significant relationship between the impact of COVID-19-related distress on the occurrence of suicidality and the year of the pandemic $\chi 2(2, N = 100) = 8.347$, $p = 0.015$ was observed. No statistically significant correlation was found between suicidal behavior, stress intensity, fear and the score on the social support scale ($p > 0.05$).

**CONCLUSION:**
Fear related to the COVID-19 pandemic can only be seen as a contributor to suicidality. Overall, social support does not always act protectively. Previously stressful experiences such as wars, poverty and natural disasters seem to play a significant role in the resilience to each new public health crisis.

**Keywords:** COVID-19; Fear; Anxiety Disorders; Social Support; Affective Disorders; Suicide; Resilience; Public Health Crisis; Social Isolation; Mental Health

**P-012**

## The association between "active ingredients" by age 11 and persistent high levels of depression across adolescence and young adulthood

Buse Beril Durdurak[1], Steven Marwaha[1], Beckye Williams[1], Christopher Yau[2], David Wong[3], Anna Moore[4], Alexander Zhigalov[1], Isabel Morales Munoz[1]
[1]School of Psychology, Institute for Mental Health, University of Birmingham
[2]Oxford Big Data Institute, University of Oxford
[3]The Alan Truing Institute, University of Manchester
[4]Cambridge Neuroscience, University of Cambridge

**OBJECTIVE:**
Several factors in prevention and intervention (i.e., "active ingredients") for depression in young people have been detected. However, the critical components to prevent and reduce the risk of persistent depression remain unknown. We aimed to a) understand the trajectories of depression across adolescence and young adulthood; and b) examine the associations between potential risk factors and persistent high levels of depression.

**MATERIAL AND METHODS:**
We used data from 15,034 participants in the ALSPAC cohort. Depression was assessed at 12.5-22 years of age using the self-reported Short Moods and Feelings Questionnaire. Further, we examined several factors (e.g., sleep, cognition, physical activity, or school connectedness, among others) as predictors. Additionally, we controlled for ethnicity, sex, socio-economic status, temperament, and preterm delivery.

**RESULTS:**
Using latent class growth analysis, we detected a 4-classes model, which identified four trajectories of depression: persistent high, persistent low, persistent moderate and increasing high. Feeling lonely, behavioural activation, low physical activity, inattention, low intelligence quotient, having religious beliefs, less school connectedness or enjoyment, having less friends, poor diet, poor parenting and sleeping difficulties were all associated with persistent high levels of depression.

**CONCLUSION:**
Our findings show that a small group of adolescents suffer from persistent depression and that several risk factors are associated with persistent high levels of depression. When tailoring treatment strategies for chronic forms of depression, "active ingredients" that are associated with higher and lower levels of depression need to be considered as these may predict or prevent a more prolonged and severe course of illness.

**Keywords:** Depression, adolescents, active ingredients, ALSPAC, trajectories, prevention

**P-013**

## The Effects of Sandplay Therapy on the Limbic System and Prefrontal Cortex in Adults with Generalized Anxiety Disorder

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[2]Black Sand Neuropsychological Services, Hawaii, USA

**OBJECTIVE:**
Generalized Anxiety Disorder (GAD) is a prevalent disorder characterized by psychological and neurophysiological impairments. Previous studies show that Sandplay Therapy effectively improves anxiety symptoms in individuals with GAD. This study explores whether clinical symptom improvement from using Sandplay also involves changes in brain functioning. This study focused on the brain regions implicated in GAD, specifically the hippocampus, amygdala, thalamus, and prefrontal cortex (PFC).

**MATERIAL AND METHODS:**
Magnetic resonance spectroscopy was used to target these brain regions to measure metabolite changes, specifically in the N-Acetylaspartate to creatine (NAA/Cr) ratio—a measure of neuronal viability. A within-subject pre-post design was utilized with adults (n=6, ages 21 to 40) diagnosed with GAD. Thirty sessions of Sandplay were provided weekly.

**RESULTS:**
Results from both clinical measures of anxiety (HAM-A and GAD-7) indicated mean pretest scores in the clinical range, with average posttest scores below the clinical range for GAD. Likewise, the NAA/Cr ratio mean scores for the hippocampus, amygdala, and PFC was outside the healthy range before and trended toward or into the healthy range after treatment. The NAA/Cr ratio mean scores in the thalamus were in the healthy range before treatment and remained in the healthy range after treatment.

**CONCLUSION:**
This study concludes that Sandplay effectively improves clinical anxiety symptoms in individuals with GAD and may also improve metabolic brain functioning in the limbic system and PFC. Limitations, implications, and further research are discussed.

**Keywords:** Generalized Anxiety Disorder, Sandplay Therapy, Limbic System, Prefrontal Cortex, Magnetic Resonance Spectroscopy

**P-014**

**Predicting Suicidal Ideation in Adolescence and Early Adulthood: A Machine Learning Approach**

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[2]Center for Child and Family Policy, Duke University, Durham, NC, USA

**OBJECTIVE:**
Understanding the role of specific risk and protective factors in the development of suicidal ideation (SI) is crucial to combat rising youth suicide rates. The present study identified the most relevant predictors of SI through Machine Learning (ML), whilst comparing genders and developmental contexts.

**MATERIAL AND METHODS:**
Two datasets from the Violence Against Children project in Colombia were analyzed: a nationally representative sample and one of priority, characterized by recurrent armed conflict. Several risk factors, such as adverse childhood experiences, and protective factors, such as social support, were analyzed as predictors of SI in adolescence and young adulthood. A supervised ML framework was implemented to rank the predictors based on their relevance.

**RESULTS:**
The model's predictive performances were generally above chance level. The main predictors of SI across samples were adverse mental health, emotional abuse, physical abuse, pedophilic sexual abuse, and the perpetration of physical violence. A gradient in the predictive ability of different experiences of abuse in childhood was observed, with emotional abuse being the strongest predictor, followed by physical and pedophilic sexual abuse, respectively.
Several gender differences were highlighted, with adverse mental health, alcohol and substance abuse, and non-pedophilic sexual abuse being relevant only for females, and sexual violence perpetration only for males. Witnessing violence was only relevant in priority areas, whereas bisexuality was significant only in the nationally-representative sample.

**CONCLUSION:**
These findings advance understanding of SI, as the unique contributions of each predictor are highlighted by ML, and promote the development of optimal preventive measures against youth suicide.

**Keywords:** suicidal ideation, machine learning, prediction, adverse childhood experiences, pedophilic sexual abuse, armed conflict

**Figure 1**

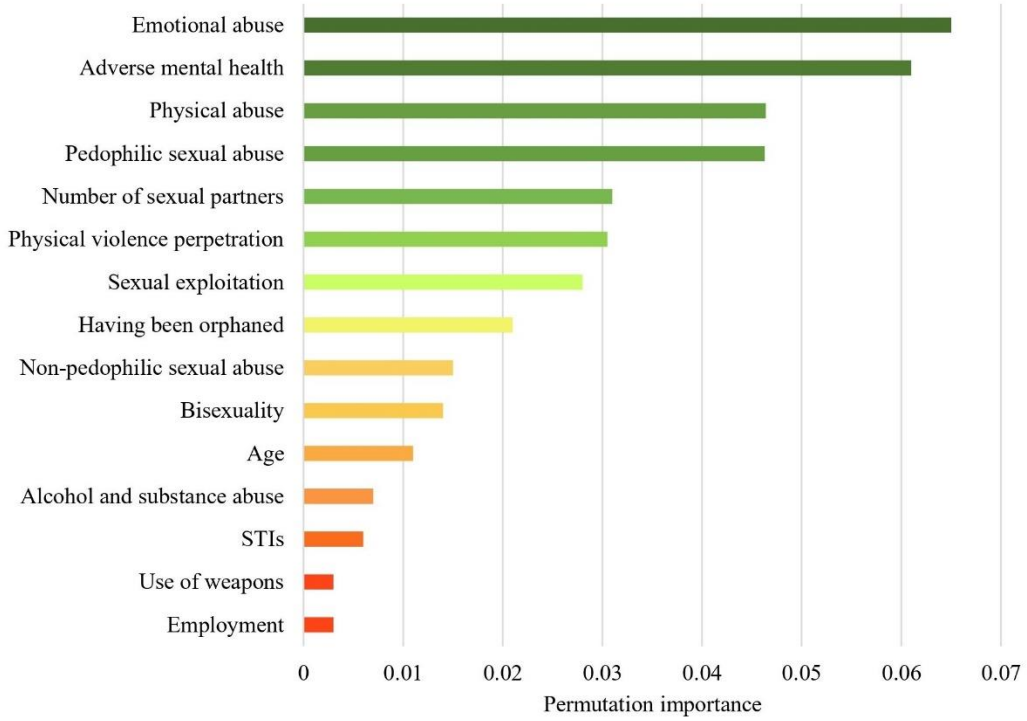


**Figure 1**

*The figure depicts the 15 most relevant predictors of suicidal ideation in the National Females sample. The x-axis illustrates the permutation importance of each feature, whereas the y-axis shows the ranking of the features.*

*The figure depicts the 15 most relevant predictors of suicidal ideation in the National Females sample.The x-axis illustrates the permutation importance of each feature, whereas the y-axis shows the ranking of the features.*

**Figure 2**

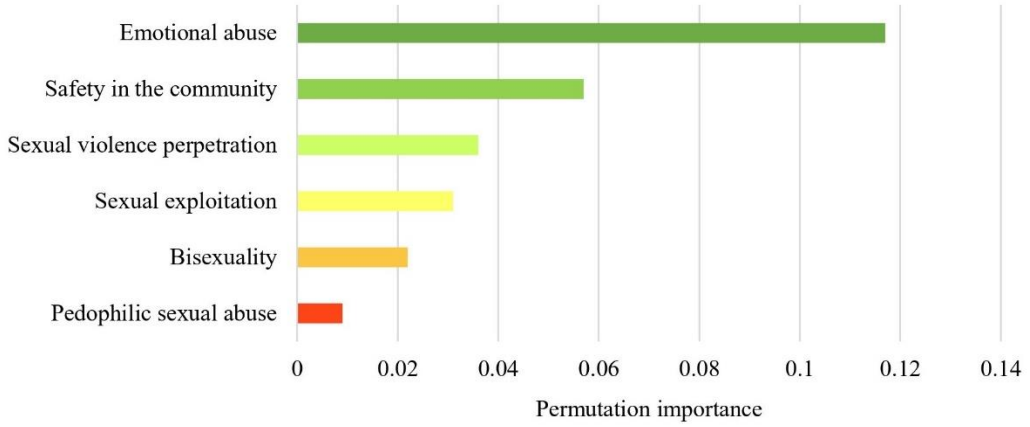


**Figure 2**

*The figure depicts the 6 most relevant predictors of suicidal ideation in the National Males sample.*

*The figure depicts the 6 most relevant predictors of suicidal ideation in the National Males sample.*

**Figure 3**

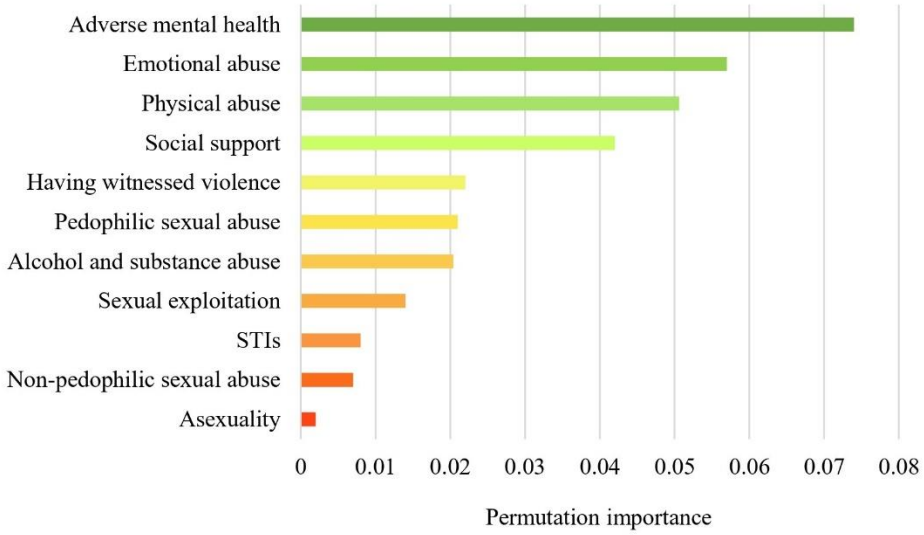


**Figure 3**

*The figure depicts the 11 most relevant predictors of suicidal ideation in the Priority Females sample.*

*The figure depicts the 11 most relevant predictors of suicidal ideation in the Priority Females sample.*

**Figure 4**

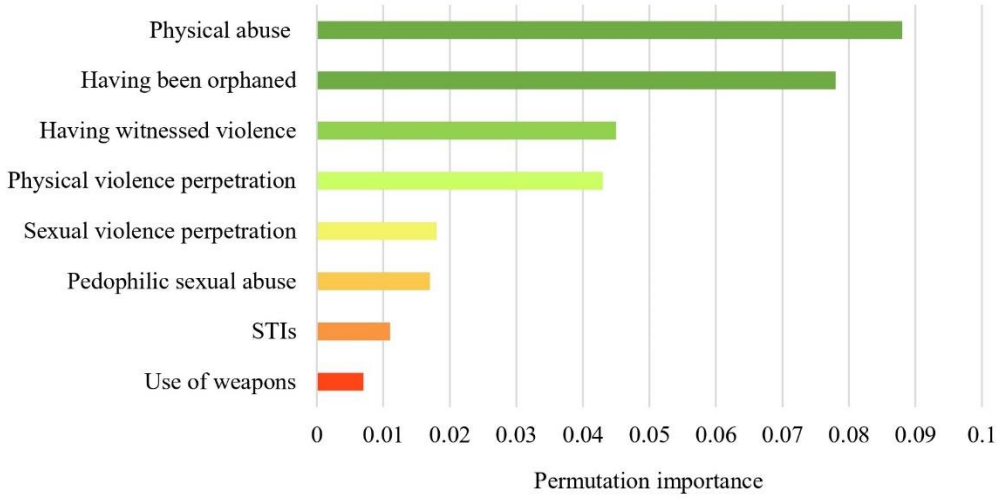


**Figure 4**

*The figure depicts the 8 most relevant predictors of suicidal ideation in the Priority Males sample.*

*The figure depicts the 8 most relevant predictors of suicidal ideation in the Priority Males sample.*

**Table 1**

**Table 1**

*Predictors of Suicidal Ideation.*

| *Demographic Variables* |
|---|
| Age |
| Gender |
| Education |
| *Adverse Childhood Experiences* [1] |
| Having been orphaned |
| Lack of safety in the community |
| Witnessing repeated Physical violence |
| Having experienced Emotional abuse |
| Having experienced Physical abuse |
| Having experienced Pedophilic Sexual abuse |
| Having experienced Non-Pedophilic Sexual abuse |
| Sexual intercourse in sensitive period |
| *Recent Experiences* |
| Employment |
| Social support |
| Use of weapons |
| Alcohol and Substance Abuse |
| Sexual orientation |
| Number of sexual partners |
| Sexually Transmitted Infections (STIs) |
| Sexual exploitation |
| Adverse events in pregnancy [2] |
| Physical Violence Perpetration |
| Sexual Violence Perpetration |
| Adverse mental health |
| Self-harming [3] |

[1] ACEs include events experienced before the age of 14 (excl. Emotional abuse)
[2] The feature only applies to the female sample
[3] The predictor was later removed and it is not included in the results section

*The table depicts the predictors that were included in the study.*

**Table 2**

**Table 2**

*Median Performances of the Predictive Machine Learning Model across samples as Measured by Matthew Correlation Coefficients.*

| *National Females* | | | |
|---|---|---|---|
| Partition | Median MCC | 5% CI | 95% CI |
| DAP Train | 0.403 | 0.396 | 0.411 |
| DAP Valid [4] | 0.396 | 0.356 | 0.434 |
| Train | 0.409 | 0.306 | 0.505 |
| Test | 0.383 | 0.222 | 0.547 |
| *National Males* | | | |
| Partition | Median MCC | 5% CI | 95% CI |
| DAP Train | 0.267 | 0.255 | 0.281 |
| DAP Valid | 0.276 | 0.223 | 0.325 |
| Train | 0.267 | 0.131 | 0.394 |
| Test | 0.186 | -0.050 | 0.411 |
| *Priority Females* | | | |
| Partition | Median MCC | 5% CI | 95% CI |
| DAP Train | 0.334 | 0.330 | 0.339 |
| DAP Valid | 0.330 | 0.306 | 0.354 |
| Train | 0.319 | 0.222 | 0.417 |
| Test | 0.306 | 0.124 | 0.468 |
| *Priority Males* | | | |
| Partition | Median MCC | 5% CI | 95% CI |
| DAP Train | 0.295 | 0.282 | 0.307 |
| DAP Valid | 0.296 | 0.250 | 0.345 |
| Train | 0.265 | 0.144 | 0.363 |
| Test | 0.160 | -0.073 | 0.331 |

[4] The DAP Train and DAP Valid MCCs have been obtained during the internal validation procedure. The first was conducted on each of the four folds and the latter on each left-out fold. The MCCs were then averaged across iterations. The Train's MCCs refer to the entire training partition and the Test MCCs refer to the final step of the procedure, the model evaluation on the testing partition.

*The table shows the average performance computed for each iteration based on the model's predictions on the validation folds during the 5x10 cross-validation procedure.*

**Table 3a**

**Table 3**

*Confusion Matrices and Accuracy of the Model in each sample.*

| | | | | | | |
|---|---|---|---|---|---|---|
| *National Females* | | | | | | |
| | Train Partition | | | Test Partition | | |
| | n = 886 | | | n = 296 | | |
| | Classified as not having SI | Classified as having SI | Class Accuracy | Classified as not having SI | Classified as having SI | Class Accuracy |
| No report of SI | 557 | 150 | 78.783 | 177 | 59 | 75.0 |
| Reported SI | 57 | 122 | 68.156 | 18 | 42 | 70.0 |
| *National Males* | | | | | | |
| | Train Partition | | | Test Partition | | |
| | n = 815 | | | n = 272 | | |
| | Classified as not having SI | Classified as having SI | Class Accuracy | Classified as not having SI | Classified as having SI | Class Accuracy |
| No report of SI | 632 | 119 | 84.154 | 204 | 47 | 81.154 |
| Reported SI | 29 | 35 | 54.687 | 11 | 10 | 47.619 |
| *Priority Females* | | | | | | |
| | Train Partition | | | Test Partition | | |
| | n = 833 | | | n = 278 | | |
| | Classified as not having SI | Classified as having SI | Class Accuracy | Classified as not having SI | Classified as having SI | Class Accuracy |
| No report of SI | 461 | 222 | 67.496 | 152 | 76 | 66.666 |
| Reported SI | 40 | 110 | 73.333 | 14 | 36 | 72.000 |
| *Priority Males* | | | | | | |
| | Train Partition | | | Test Partition | | |
| | n = 723 | | | n = 241 | | |

*The table depicts the participant distribution across partitions, the confusion matrices and the accuracy of the model in the National Female, National Male and Priority Female samples.*

**Table 3b**

| | Classified as not having SI | Classified as having SI | Class Accuracy | Classified as not having SI | Classified as having SI | Class Accuracy |
|---|---|---|---|---|---|---|
| No report of SI | 484 | 202 | 70.553 | 151 | 78 | 65.938 |
| Reported SI | 5 | 32 | 86.486 | 4 | 8 | 66.666 |

*Note. The table depicts the participant distribution across partitions, the confusion matrices and the accuracy of the model for each dataset. Within the confusion matrix, the rows refer to whether the participants' reported SI or not, and the columns to whether the model categorized the subject as someone who reported SI or did not report SI.*

*The table depicts the participant distribution across partitions, the confusion matrices and the accuracy of the model in the Priority Male sample.*

**P-015**

## Examining effectiveness of web-based single-session growth mindset interventions for adolescent mental health: a four-armed randomised controlled trial study

Shimin Zhu
The Hong Kong Polytechnic University

**OBJECTIVE:**
Affective disorders are the most common mental disorders worldwide. However, 65% of them do not access services. The high prevalence of anxiety and low intervention uptake indicate a pressing need to develop timely, scalable, and potent interventions suitable for adolescents. Adapting the existing Single-session interventions (SSIs), the study further developed SSI and SSI with boosters to examined have the potential scalable interventions for adolescents mental health. This study aims to compare the effectiveness of three SSIs: Single-session Intervention of Growth Mindset for Adolescents (SIGMA), SSI of Growth Mindset of Personality (SSI-GP) and active control, in reducing adolescent anxiety.

**MATERIAL AND METHODS:**
The material and protocol was published in JMIR Research Protocol (https://www.researchprotocols.org/2023/1/e41758/authors). The interventions were registered in ClinicalTrials.gov NCT05027880. Adolescents (N=731, ages 12-16) from seven secondary schools were randomised to one of four intervention conditions: the SIGMA, SIGMA with boosters, SSI-GP, or active control. The implementation of each intervention took approximately 45 minutes online. Participants reported open-ended feedback at postintervention. anxiety symptoms (primary outcome), perceived control, hopelessness, attitude toward help-seeking and psychological well-being, pre-intervention, the 2-week and 8-week follow-up. The data collection was accomplished by June 2023.

**RESULTS:**
Participants reported similarly high feasibility and acceptability of four interventions (more than 70% reported positive feedback. Per-protocol analysis and Intent-to-treat analysis are being performed and will be presented in the conference if accepted.

**CONCLUSION:**
This study introduces the implementation content and strategies of growth mindset SSIs among school students. The study will provide evidence on the efficacy of different growth mindset SSIs for adolescent anxiety.

**Keywords:** growth mindset; fixed mindset; mental health; secondary school students, brief intervention, belief-in-change;

**Participants in intervention**

**P-016**

## Improvement in Depression Symptoms Measured by Montgomery-Åsberg Depression Rating Scale and Quick Inventory of Depressive Symptomatology-Self Rated Items after COMP360 Psilocybin Therapy for Treatment-resistant Depression

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**OBJECTIVE:**
COMP360 25mg (COMPASS Pathways' proprietary pharmaceutical-grade synthetic psilocybin formulation) alongside psychological support demonstrated superiority to COMP360 1mg on change from baseline (CFB) in Montgomery-Åsberg Depression Rating Scale (MADRS) total score at Week 3 (primary endpoint). CFB in Quick Inventory of Depressive Symptomatology-Self Rated (QIDS-SR16) total score (exploratory endpoint) drew similar conclusions. Here, we analyse changes in specific depression symptoms post-COMP360 treatment, measured by individual item scores on the aforementioned measures.

**MATERIAL AND METHODS:**
Treatment-resistant depression (TRD) participants were randomised to COMP360 25mg (n=79), 10mg (n=75), or 1mg (n=79) monotherapy. MADRS and QIDS-SR16 were assessed at Baseline, Day 2, and Weeks 1,3, 6, 9, and 12. Descriptive statistics were calculated for each item's score per timepoint.

**RESULTS:**
At Week 3, MADRS items with the largest differences in mean CFB in the 25mg arm were Inability to Feel, Apparent Sadness, Lassitude, and Reported Sadness (mean [standard deviation, SD] 1.8 [1.81], -1.7 [1.94], -1.6 [1.81], -1.6 [1.95], respectively). Greater improvement in the 25mg arm was apparent from Day 2 to Week 12 (Lassitude remained to Week 6). For QIDS-SR16, the largest mean CFB difference at Week 3 in the 25mg arm was in Feeling Sad (mean [SD] -1.1 [1.08]), remaining to Week 12.

**CONCLUSION:**
COMP360 rapidly and dose-relatedly improved symptoms of depressed mood and anhedonia – the two key depression symptoms. As anhedonia is predictive of poorer treatment response, and improvements in anhedonia have been previously demonstrated to correlate with functioning improvements, it is essential to understand the impact of treatments on these symptoms.

Funded by COMPASS Pathways.

**Keywords:** psilocybin, psychedelics, treatment-resistant depression, anhedonia, depressed mood

**P-017**

## A rapid realist review of universal interventions to promote inclusivity and acceptance of diverse sexual and gender identities in schools

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**OBJECTIVE:**
Sexual and gender minority young people are at an increased risk of depression, anxiety, self-harm, and suicidality compared to their heterosexual and cisgender peers. Universal interventions to promote inclusivity and acceptance of diverse sexual and gender identities in schools could help to prevent mental health problems in this population. We reviewed evidence on universal interventions and developed programme theories to explain which universal interventions work, for whom, in which contexts, and why.

**MATERIAL AND METHODS:**
We conducted a rapid realist review and extracted data in context–mechanism–outcome configurations, to develop and refine programme theories. We included academic and non-academic resources and consulted relevant stakeholders, including a Young Person's Advisory Group and a Stakeholder Advisory Group.

**RESULTS:**
We included 53 sources and identified five intervention themes: student pride clubs, inclusive antibullying and harassment policies, inclusive curricula, workshops and media interventions, and staff training. We found that these interventions could work by increasing understanding and empathy and decreasing bullying and discrimination towards sexual and gender minority students. Interventions appear to work best when school staff are trained, the wider school climate is supportive, interventions are co-developed and co-delivered by sexual and gender minority people as well as integrated in the wider school strategy. Interventions may be less effective for boys, gender minority students, and bisexual students.

**CONCLUSION:**
Our findings provide guiding principles for schools to develop interventions and should encourage primary research to confirm, refute, or refine our programme theories.

**Keywords:** Universal school-based interventions, sexual and gender minorities, anxiety, depression, self-harm, suicide

**P-018**

## Breaking point: the role of difficulties in emotion regulation and psychological inflexibility on perceived stress among Italian nurses

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**OBJECTIVE:**
Nurses involved in resuscitation cases need to regulate their emotions, which can be a risk factor for stress (Koželj et al., 2021). Also, psychological inflexibility (PI) can lead to emotional distress and ineffective behavior (Bond et al., 2011). High levels of distress can cause problems for nurses' work and overall health (Kovács et al., 2021). This study aims to explore the mediating role of PI in the relation between difficulties in emotions regulation and perceived stress.

**MATERIAL AND METHODS:**
A total of 210 nurses (%F= 65.2; Mage=40.25±11.36) working in intensive care unit of Italian public hospitals were recruited. Participants completed the following questionnaires: Difficulties in Emotion Regulation Strategies (DERS), Acceptance and Action Questionnaire-II for measuring PI, and Perceived Stress Scale. Correlation analyses and a simple mediation model (PROCESS model 4) was performed to test the hypotheses.

**RESULTS:**
Pearsons' correlations showed significant positive associations between DERS, PI and perceived stress (Figure 1). Moreover, the mediating role of psychological inflexibility between difficulties in emotion regulation and perceived stress emerged. Higher levels of DERS predicted higher psychological inflexibility, which in turn predicts greater perceived stress (Figure 2), also, high DERS directly predicted higher perceived stress. The model explains 27% of variance.

**CONCLUSION:**
These results highlight direct and indirect antecedents of perceived stress in a group at risk for emotional discomfort. They could be useful for designing prevention programs aimed at improving nurses' emotion regulation skills and psychological inflexibility, thus reducing perceived stress, improving their psychophysical health, and the quality of patient care.

**Keywords:** emotion regulation; psychological inflexibility; psychological distress; risk factors; mediation

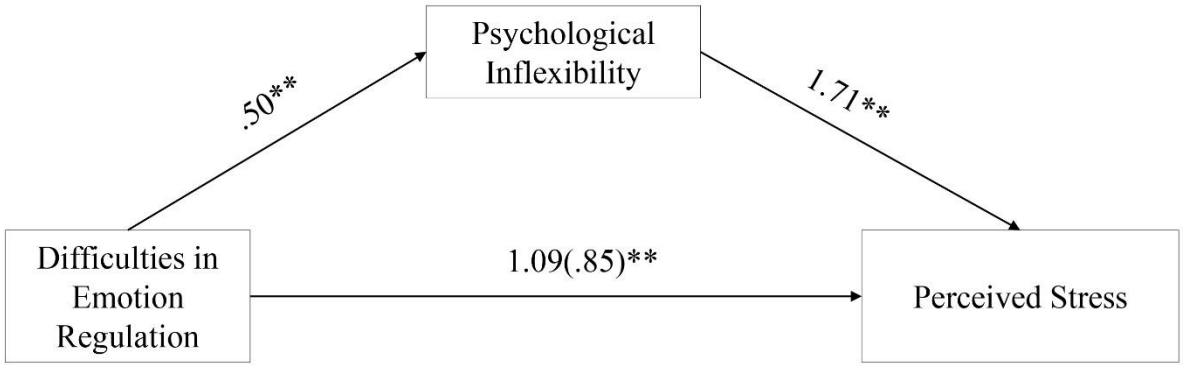
**Figure 1 - Correlations**

| | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Age | - | | | | | | | | | | |
| 2. Gender | -.18* | - | | | | | | | | | |
| 3. Lack of Acceptance (subscale DERS) | -.06 | .004 | - | | | | | | | | |
| 4. Difficulty in Distraction (subscale DERS) | .01 | -.15* | .62** | - | | | | | | | |
| 5. Lack of Control (subscale DERS) | -.20** | -.06 | .71** | .55** | - | | | | | | |
| 6. Reduced Self-Awareness (subscale DERS) | .01 | -.07 | .79** | .67** | .68** | - | | | | | |
| 7. Lack of Trust (subscale DERS) | -.33** | .08 | .54** | .35** | .64** | .45** | - | | | | |
| 8. Difficulty in Recognition (subscale DERS) | -0,13 | .12 | .06 | -.16* | .30** | -.03 | .56** | - | | | |
| 9. Difficulties in Emotion Regulation (total) | -.13 | -.05 | .89** | .76** | .87** | .88** | .71** | .20** | - | | |
| 10. Psychological Inflexibility | -.19** | -.01 | .33** | .15* | .34** | .19** | .21** | -.01 | .29** | - | |
| 11. Perceived Stress | -.22** | .06 | .33** | .20** | .25** | .27** | .23** | -.03 | .30** | .50** | - |

*= p<.05; **= p<.001; DERS= Difficulties in Emotion Regulation Scale

*Results of the correlations among variables of interest*

**Figure 2 - Mediation model**




*Results of the mediation model tested*

**P-019**

**Could microdose lithium be a viable neuroprotective supplement?**

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**OBJECTIVE:**
As well as being mainstay mood stabiliser, lithium confers a range of therapeutic effects in high doses. These doses can confer safety and tolerability issues, but even trace doses of elemental lithium have been associated with reduced suicide and cognitive decline. Low-dose lithium is available over the counter as a supplement, but these supplements have not been examined in research.

**MATERIAL AND METHODS:**
Firstly, a systematic review of low-dose lithium (<0.6mmol/L) for neuropsychiatric outcomes was undertaken. This included any study (up to 2021) with neuropsychiatric data reported in lithium vs no-lithium conditions. Secondly, a cross-sectional survey of people who have taken low-dose lithium as an over the counter supplement examined characteristics of the lithium supplement taken, general views about lithium, positive and negative experiences with lithium supplementation.

**RESULTS:**
18 articles included in the systematic review reported some minor benefits as an adjunctive anti-manic, inconsistent benefits for depression, and consistent benefits to cognition in samples with clinically-significant cognitive decline. The survey (n=211) reported 10mg of lithium aspartate as the most common supplement, with anxiety, mood and cognition frequently reported as benefits. Mood and anxiety changes were the most common effect after discontinuing supplementary lithium.

**CONCLUSION:**
Overall, there is limited, but promising, evidence on effects of lithium in low doses. There is virtually no evidence regarding the effects of commercially-available lithium supplements. The most consistent finding from the systematic review was safety of low-dose lithium. Further work is important, especially as lithium supplements are highly accessible to the public and cognition is a major public concern.

**Keywords:** lithium, mood, cognition, supplement, microdose

**P-021**

**Medical Comorbidities in Bipolar Disorder (BIPCOM): a European multicentre study to investigate the medical comorbidities in Bipolar Disorder.**

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**OBJECTIVE:**
BIPCOM aims to (1) identify medical comorbidities in people with Bipolar Disorder (BD); (2) examine risk factors and clinical profiles of Medical Comorbidities (MC) in this clinical group, with a special focus on Metabolic Syndrome (MetS); (3) develop a Clinical Support Tool (CST) for the personalized management of BD.

**MATERIAL AND METHODS:**
The BIPCOM project aims to investigate MC, specifically MetS, in individuals with BD using various approaches. Initially, prevalence rates, characteristics, genetic and non-genetic risk factors, and the natural progression of MetS among individuals with BD will be assessed. This will be accomplished by analyzing Nordic registers, biobanks, and existing patient datasets from five sites. Subsequently, a clinical study involving 400 participants from five sites will be conducted to examine the clinical profiles and incidence of specific MetS risk factors over one year. Baseline assessments, one-year follow-ups, biomarker analyses, and physical activity measurements with wearable biosensors will be performed. Using this comprehensive data, a CST will be developed to enhance the prevention, early detection, and personalized treatment of MC in BD, by incorporating clinical, biological, and genetic information. Gender-related differences in comorbidity prevalence, course, and outcomes will also be considered.

**RESULTS:**
BIPCOM's data collection enhances BD patient care with personalized strategies, improving quality of life and reducing costly interventions. It prevents comorbidity-related complications, hospitalizations, and emergency visits, resulting in substantial healthcare cost savings.

**CONCLUSION:**
The study's results enhance our understanding of MC in BD, enabling the prediction and management of MetS and cardiovascular diseases. It assists clinicians in effectively predicting comorbidities and managing patients.

**Keywords:** bipolar disorder, medical comorbidities, quality of life, precision medicine

**P-022**

## Medical comorbidities in Bipolar Disorder: clinical validation of risk factors and biomarkers to improve prevention and treatment (BIPCOM). A focus group study

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**OBJECTIVE:**
In the BIPCOM project we will try to gain up-to-date insights on the recognition and management of medical comorbidities of people with Bipolar Disorder (BD), including their burden, met and unmet needs, and how services can help manage them also through a qualitative study which will rely on Focus Groups (FGs).

**MATERIAL AND METHODS:**
FGs will be organized in parallel in 5 European sites, with three groups per site. The first group will consist of patients with BD; the second will include professionals involved in the care of patients with BD; the third will comprise caregivers. Each group will meet once (total FGs=15). The research questions will be established beforehand and will be applicable across all groups. In each group, there will be a moderator and an observer. The coding and analysis of the FGs will take place using the Framework Method. Transcripts will be coded and a working analytical framework will be established, using the constant comparative method. Transcript data will be manually inserted into a Framework matrix to enable ordering and data synthesis: this will facilitate within and across-case analysis of data from focus groups to identify key themes relating to participants' views. FGs data will be analyzed using nVIVO software.

**RESULTS:**
The data collected during the FGs will help develop a clinical support tool that will include a set of recommendations to support clinical decision-making in BD comorbidity management.

**CONCLUSION:**
The results of the study will have significant implications to improve the prevention, early detection, and effective treatment of comorbidities in BD.

**Keywords:** bipolar disorder, medical comorbidities, quality of life, focus groups

**P-023**

## Major depressive disorder and attenuated negative symptoms in a child and adolescent sample with psychosis risk syndrome at 18 months follow-up: the CAPRIS study

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**OBJECTIVE:**
In this study we want to analyze how the presence of a major depressive disorder (MDD) and negative symptoms in a sample of children and adolescents with Psychosis Risk Syndrome (PRS) affects the transition to psychosis, the diagnostic stability over time and the relationship between these two spheres of symptoms.

**MATERIAL AND METHODS:**
The sample has been described using means, standard deviations, and ranges in the continuous variables, and frequencies and percentages in the categorical variables.
We focused the study on the PRS sample with MDD (PRS-MDD). A sample of 46 PRS-MDD patients was included in the study. We divided this sample according to the transition (PRS-MDD-P, N=13) or not to psychosis (PRS-MDD-NoP, N=33). We analyzed the sample at baseline and at 18 months follow-up.

**RESULTS:**
At baseline, there are no differences in the Hamilton score (HDRS) between PRS-MDD-P and PRS-MDD-NoP. At 18 months follow-up, PRS-MDD-P have higher HDRS values than PRS-MDD-NoP.
At baseline, there are no differences in negative symptoms between PRS-MDD-P and PRS-MDD-NoP. However at 18 months there are significant differences in N1 (Social anhedonia or withdrawal), N2 (Avolition), N5 (Impoverished thinking), N6 (Deterioration of role functioning) and N total, presenting a higher score in the sample that has transitioned to psychosis.

**CONCLUSION:**
At 18 months, the symptomatology of depressive disorder remains in the patients who transition to psychosis as well as present a higher score in the negative symptoms in relation to those who do not transition, which indicates that there is a greater severity in those who develop a psychotic disorder.

**Keywords:** Psychosis risk syndrome, major depressive disorder, negative symptoms, child and adolescent

**P-024**

## A randomised pragmatic trial comparing the clinical and cost effectiveness of lithium and quetiapine augmentation in treatment resistant depression (LQD)

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**OBJECTIVE:**
Lithium and several atypical antipsychotics are the recommended first-line augmentation options for treatment resistant depression (TRD); however, few studies have compared them directly. This trial examined whether it is more clinically and cost-effective to prescribe lithium or quetiapine augmentation therapy for patients with TRD over the course of 12 months.

**MATERIAL AND METHODS:**
Participants with major depressive disorder and an inadequate response to ≥2 antidepressants were recruited at 6 NHS trusts. Participants were randomised 1:1 to lithium or quetiapine augmentation therapy. After randomisation, pre-prescribing safety checks were undertaken as per standard care and trial clinicians decided whether to proceed with prescribing the allocated medication. Primary outcome measures were depression symptom severity over 52 weeks, and time to all-cause treatment discontinuation. Economic analyses compared costs between the two treatment arms from an NHS and social services perspective and a societal perspective.

**RESULTS:**
212 participants were randomised, 107 to quetiapine and 105 to lithium. The quetiapine arm showed a significantly greater reduction in depressive symptoms than the lithium arm over 52 weeks. Median days to discontinuation did not significantly differ between the two arms. Quetiapine was more cost effective than lithium.

**CONCLUSION:**
As well as being more cost-effective, quetiapine may be a more clinically effective augmentation option for treatment resistant depression. Examining predictors of treatment response will help establish whether there are additional factors to consider when choosing an augmentation treatment for TRD.
This trial was funded by NIHR HTA.

**Keywords:** depression, lithium, quetiapine

**P-025**

## Application of an adaptative algorithm to promote an accurate and efficient assessment of General Depression using the Inventory of Depression and Anxiety Symptoms-II

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**OBJECTIVE:**
The Inventory of Depression and Anxiety Symptoms-II (IDAS-II) includes a General Depression (GD) scale that provides an overall depression score consistent with the Hierarchical Taxonomy of Psychopathology (HiTOP). However, its length may limit its application in contexts with reduced administration time. The aim is to simulate a Computerized Adaptive Version (CAT) of the GD scale of IDAS-II.

**MATERIAL AND METHODS:**
1692 community adults and 329 patients completed the Spanish version of the IDAS-II (de la Rosa-Cáceres et al., 2020). Different subsamples completed additional external measures (BAI, BDI-II, OCI-R, PCL-C, PID-5, WHODAS). Item Response Theory metric properties of the 20-items of the GD scale were obtained. The efficiency and accuracy of different computerized adaptive algorithms were simulated.

**RESULTS:**
The unidimensional CAT algorithm for the GD scale allowed for a 70% reduction in the length of administration, maintaining a measurement error of.35. The results showed high correlations between the scores estimated with the adaptive algorithms and the estimates based on the full test, and correlations with external criteria were almost equal to those generated with the full test.

**CONCLUSION:**
The CAT version of the GD scale could be a reliable and fast tool for measuring depression efficiently, consistent with the HiTOP. This study has been funded by the grant "Reliable and clinical relevant change of Inventory of Depression and Anxiety Symptoms-II – IDAS-II: a longitudinal clinical utility study (RELY-IDAS-II)", project PID2020-116187RB-I00 on Proyectos I+D+I “Retos del Conocimiento” provided by Ministerio de Ciencia e Innovación (Spain) and grant FPU19/00144 provided by Ministerio de Universidades (Spain).

**Keywords:** computerized adaptive version, IDAS-II, general depression, clinical utility, HiTOP

**P-026**

**A phenome-wide association of polygenic risk for subjective well-being**

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**OBJECTIVE:**
Subjective well-being (SWB) reflects an individual's evaluation of their life in emotional and cognitive domains. Examining SWB and its correlations with traits, particularly health outcomes, is crucial for a comprehensive understanding of SWB. This study aims to explore potential health outcomes genetically related to SWB.

**MATERIAL AND METHODS:**
Summary statistics from a previous genome-wide association study of SWB were used to create a SWB polygenic score (PS). The SWB-PS was evaluated using the UK Biobank dataset of European ancestry. Associations between SWB-PS and health conditions were assessed through phenome wide association study (PheWAS) analysis of SWB-PS on 1,008 phecodes. The analysis was conducted in a discovery set (n=188,418) and a replication set (n=42,604).

**RESULTS:**
A total of 44 phecodes were significantly associated with the SWB-PS in the discovery set. Of these, 14 phecodes showed significant associations in the replication set. These phecodes included psychiatric disorders such as anxiety disorders (beta: -0.103, p-value: $8.58\times10^{-19}$) and other mental disorders (beta: -0.043, p-value: $4.39\times10^{-9}$), gastrointestinal diseases such as functional digestive disorders (beta: -0.064, p-value: $4.30\times10^{-19}$), constipation (beta: -0.079, p-value: $5.10\times10^{-13}$).

**CONCLUSION:**
This study identified significant genetic associations between SWB and psychiatric disorders or gastrointestinal diseases. Future studies can further enhance our understanding of genetic relationships between SWB and related traits through analyses of non-European data and causal investigations.

**Keywords:** Subjective well-being (SWB), polygenic scores (PS), Phenome wide association study (PheWAS), anxiety disorders, psychiatry, gastrointestinal diseases

**P-027**

## Parental overcontrol and psychological distress: The serial mediating role of narcissistic vulnerability and shame

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**OBJECTIVE:**
The role played by parental overcontrol in the development of the child's vulnerable narcissism traits is well-established and the effects on the onset of psychological distress are also well-known. Since shame is a cornerstone aspect of vulnerable narcissists and it is implicated in various forms of psychological distress, the present study hypothesizes a serial mediating role of vulnerable narcissism and shame experiences in the association between parental overcontrol and psychological distress.

**MATERIAL AND METHODS:**
A sample of 643 participants (68% females; Mage = 29.87 ± 13.00) was administered psychometrically sound self-report measures to assess perceived parental overcontrol (maternal and paternal), vulnerable narcissism, multidimensional shame (i.e., characterological, bodily, and behavioral), and psychological distress (depression, anxiety, and stress). In order to verify the theoretical hypothesized model a Structural Equation Modeling was performed. The indirect effects were tested using the bootstrapping method with 5000 bootstrap samples.

**RESULTS:**
The model adequately fits the data (fit indices: $\chi 2 = 1199.870$, df = 306, $p < .001$; RMSEA = 0.067 (90% C.I. = 0.063–0.071), CFI = 0.917, SRMR = 0.051). Results showed that maternal – but not paternal – overcontrol is associated with vulnerable narcissism and bodily shame fosters psychological distress in such individuals.

**CONCLUSION:**
Results suggest that clinicians dealing with individuals with high vulnerable traits could help them reduce their distress by working on the level of narratives relating to experiences of maternal overcontrol perceived during childhood and feelings of shame expressed, especially when connected to one's own body.

**Keywords:** anxiety, depression, parental overcontrol, shame, stress, vulnerable narcissism

**P-028**

## Internalizing and externalizing traits during adolescence: epigenetics and perinatal risks differentiate clusters of symptoms

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**OBJECTIVE:**
The majority of adult disorders have roots in childhood (Pinto et al., 2015). Therefore, within these trajectories, it is essential to focus on adolescence, a life moment often characterized by a decrease in psychological well-being. This study aimed to evaluate different outcomes, using a machine learning algorithm (MLA), in a sample of adolescents who have been help-seeking children for emotional/behavioral problems.

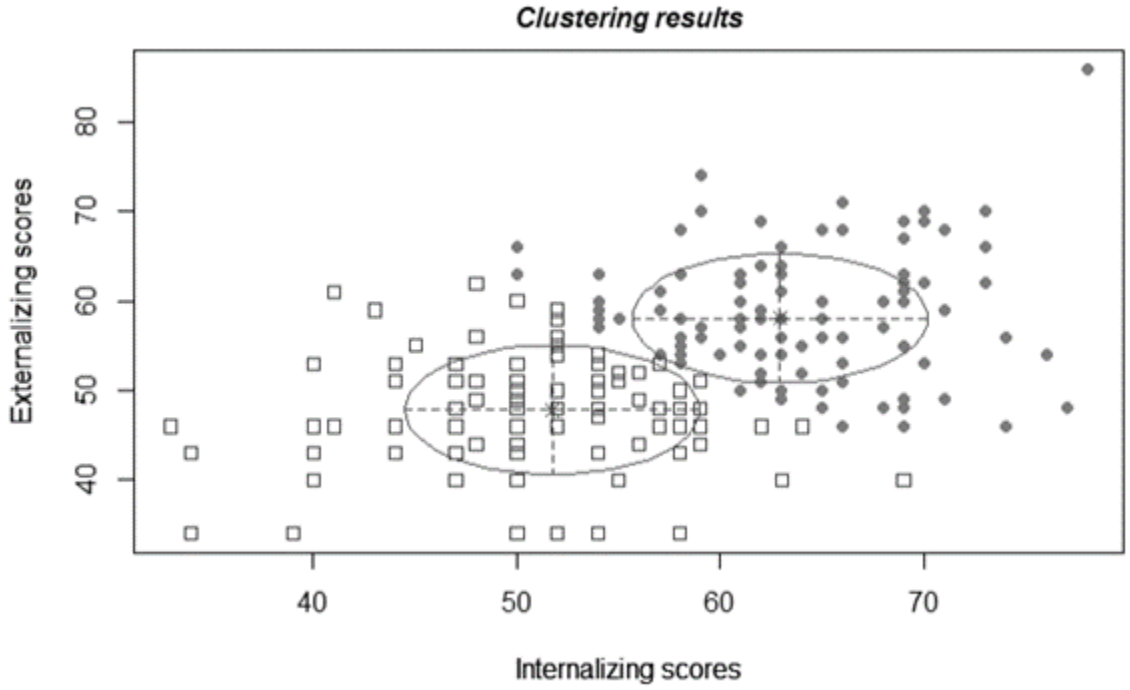
**MATERIAL AND METHODS:**
A cluster analysis MLA was implemented on Internalizing (INT) and Externalizing (EXT) scales of Child Behavior Checklist/6-18 (Achenbach & Rescorla, 2001), in a sample of 200 adolescents (mean age 14.45±2.16, male:female=47:153). Subsequently, $\chi 2$ and t tests corrected for multiple comparisons were used to evaluate the differences in psychopathological, sociodemographic, presence of environmental risk and methylation characteristics between the identified clusters.

**RESULTS:**
2 independent clusters were identified, differently characterized for psychopathological traits: LOW (51% of sample) presented subclinical values (means INT=51.0±6.91; EXT=47.1±6.51); HIGH (49%) presented high psychopathology (means INT=63.7±5.97; EXT=58.9±7.10). The HIGH cluster presented a higher proportion of perinatal risk factors and a lower percentage of methylation of Brain-derived neurotrophic factor, Insulin-like growth factor-2 and Oxytocin receptor.

**CONCLUSION:**
One half of our sample belonged to the HIGH cluster, with both high INT and EXT scores, suggesting that adolescence remains a critical period for individuals who experienced difficulties during childhood. The characteristics of the HIGH cluster corroborated the idea of an association between perinatal risks, methylation and psychopathology.

**Keywords:** psychopathological traits, adolescence, methylation, perinatal risk, cluster analysis

**Cluster analysis results**




*Squares represent participants belonging to the "LOW" cluster, whereas circles represent participants belonging to the "HIGH" cluster. Internalizing and externalizing symptoms scores are expressed in T scores, which have a mean of 50 and a deviation standard of 10.*

**P-029**

**Vortioxetine, tramadol and serotonin syndrome – a case report**

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**OBJECTIVE:**
Serotonin syndrome is a mild to potentially life-threatening condition associated with the use of antidepressants alone or in combination with other serotonergic medications, such as the opioid analgesic tramadol. We present the case of a patient with suspected serotonin syndrome following the concurrent administration of vortioxetine 10 mg/d and tramadol 150 mg/d. To our knowledge this is the first report of such an occurrence and the second report of serotonin syndrome associated with vortioxetine.

**MATERIAL AND METHODS:**
A case report and non-systematic literature research in GoogleScholar, using the keywords "vortioxetine", "tramadol", "serotonin syndrome".

**RESULTS:**
A 61 year-old female with persistent depressive disorder presented with agitation, restlessness, anxiety, diaphoresis, tremor, nausea, diarrhea and dizziness after initiating vortioxetine 10 mg/d. She had a medical history of osteoarthritis, chronic pain, diabetes mellitus and hypertension. Her current medications were tramadol 150 mg/d, pregabalin 150 mg/d, clonazepam 2 mg/d, metformin/dapagliflozin 10 mg/2000 mg/d and losartan 100 mg/d. She had discontinued duloxetine 60 mg/d a few days before starting vortioxetine. The most likely diagnosis was serotonin syndrome. Vortioxetine was discontinued, leading to clinical improvement.

**CONCLUSION:**
While serotonin syndrome is often associated with the use of antidepressants, an increasing number of reports are emerging involving the use of tramadol. Vortioxetine, being a relatively new antidepressant with a "multimodal" serotonergic mechanism of action, also has a potential risk when used in combination with other serotonergic agents. The early presentation of serotonin syndrome can be vague and easily dismissed, therefore, physicians should have a heightened awareness for this condition.

**Keywords:** serotonin syndrome, tramadol, vortioxetine

**P-030**

## Rape induced-tonic immobility and PTSD - A review of an unrecognized phenomenon with critical clinical and legal implications

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**OBJECTIVE:**
Rape is one of the most traumatic experiences, with the highest conditional risk for post-traumatic stress disorder (PTSD). It is strongly associated with tonic immobility (TI), an innate and involuntary reaction of the defensive cascade. It is elicited in the context of intense fear and perceived inescapability, all characteristics present in sexual assault. Although considered adaptative in animals, rape induced-TI is associated with PTSD severity and poor prognosis. This review aims to synthesize and integrate the results of almost 30 years of research related to rape-induced TI and PTSD concerning its clinical and legal implications.

**MATERIAL AND METHODS:**
A narrative review was conducted.

**RESULTS:**
Rape induced-tonic immobility is a prevalent phenomenon, although still neglected, in clinical and legal practices. It may occur not only as a peritraumatic reaction but also as a post-traumatic PTSD re-experiencing symptom, contributing to additional and sustained distress and helplessness. TI is associated with poor outcomes, related to negative post-traumatic cognitions, like shame and guilt related to the inability to avoid the attack. Additionally, TI may prevent serious injuries but not rape completion. Legally, the involuntary immobile response to threat dismisses the rape myths and resistance requirements as an indicator of non-consent. Nevertheless, the utmost resistance standard requirement and secondary victimization are still common practices.

**CONCLUSION:**
Rape induced-tonic immobility is a common but under-recognized defensive reaction related to negative clinical and legal implications. The available evidence regarding its adaptative role in humans is still limited.

**Keywords:** tonic immobility; rape; sexual assault; post-traumatic stress disorder; legal aspect

**P-031**

## The Inventory of Depression and Anxiety Symptoms: Evidence-based cutoffs for determining the diagnosis of depression, anxiety, and their comorbidity

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**OBJECTIVE:**
Several instruments exist to assess internalizing disorders; however, tools to interpret their scores are rarely available (Streiner et al., 2015). The Inventory of Depression and Anxiety Symptoms-II (IDAS-II; Watson et al., 2012) assesses depression and anxiety symptoms, and has norms and cutoff points to discriminate levels of disability. The aim is to determine the cutoff points of the IDAS-II to identify depression and anxiety disorders and their comorbidity, using the Mini International Neuropsychiatric Interview (MINI) as a criterion. Additionally, the scores of the diagnosed patients were compared with those of the patients who did not meet the diagnostic criteria.

**MATERIAL AND METHODS:**
257 patients completed the IDAS-II and MINI.

**RESULTS:**
The cutoff points showed a better discriminative ability to differentiate patients with comorbidity than those with depression or anxiety, with especially high AUC values for General depression (.867), Dysphoria (.842), and Panic (.812) scales. Patients with comorbidity differed the most from those who did not meet diagnostic criteria.

**CONCLUSION:**
The cutoffs provided could be useful in establishing diagnoses to meet administrative requirements in clinical practice. The best discrimination of comorbidity is consistent with previous studies that question the distinction between depression and anxiety disorders (Borsboom, 2017; McElroy et al. 2018). This study has been funded by the grant "Reliable and clinical relevant change of Inventory of Depression and Anxiety Symptoms-II – IDAS-II: a longitudinal clinical utility study (RELY-IDAS-II)", project PID2020-116187RB-I00 on Proyectos I+D+I “Retos del Conocimiento” provided by Ministerio de Ciencia e Innovación (Spain) and grant FPU19/00144 provided by Ministerio de Universidades (Spain).

**Keywords:** cutoff points, diagnosis, depression, anxiety, IDAS-II, HiTOP

**P-032**

## Understanding the Links between Chronotype, Calcium Metabolism, and Disease Progression in Bipolar Disorder

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**OBJECTIVE:**
The circadian clock, a fundamental regulator of biological rhythms, influences an individual's chronotype, which reflects their intrinsic preference for timing of daily activities. The disruption of circadian rhythm is a well-known element of bipolar disorder's etiology. Numerous studies show that major molecular regulators of the circadian clock are serum calcium (Ca2+) and its modulating hormones. Our observational study aims to explore the correlations between chronotype, disease progression and calcium metabolism in bipolar inpatients.

**MATERIAL AND METHODS:**
We recruited 40 inpatients fitting the DSM-5 criteria for bipolar disorder. We recorded socio-demographic and clinical data, including levels of Ca2+, parathormone (PTH) and calcitriol (vitD). Patients completed MEQ to evaluate their chronotype and divided into: eveningness group (E, MEQ<41), morningness group (M, MEQ>59) and intermediate group (I, 42<MEQ<58).

**RESULTS:**
Group E displays a statistically significant difference in disease progression, with a younger age at onset (E: 22.3 y, M: 37.1 y, I: 34.7 y, p=0.044) and a higher number of lifetime episodes (E: 20.3, M: 9.1, I: 10.1, p=0.024); we also found statistically significant positive correlations between MEQ scoring and Ca2+ (r=0.628, p<0.001), and between MEQ scoring and vitD (r=0.279, p=0.041); negative correlation was found between MEQ scoring and PTH (r=-0.382, p=0.008).

**CONCLUSION:**
Our study confirms a strong correlation between chronotype and the bipolar disorder progression, further emphasizing the significant role of calcium metabolism in regulating the circadian clock. Calcium metabolism may serve as a potential biological marker of disease severity, highlighting its potential as a therapeutic target and prognostic indicator in bipolar disorder.

**Keywords:** Chronotype, MEQ, Bipolar disorder, Circadian Rhythm

**P-033**

## Depressed individuals with a history of childhood trauma are particularly at risk of metabolic dysregulations: an individual participant data meta-analysis

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**OBJECTIVE:**
Both childhood trauma (CT) and depression have been associated with metabolic dysregulations. Their combination may put individuals at an even larger risk of poorer metabolic health. We will investigate metabolic outcomes across four groups of participants: people with neither CT nor depression, CT only, depression only, and both CT and depression.

**MATERIAL AND METHODS:**
We are conducting an individual participant data meta-analysis (IPDMA, PROSPERO CRD42023422973) using 11 international observational cohorts. Childhood maltreatment was assessed with retrospective self-reports of physical, emotional, and/or sexual abuse before 18 years. Depression was established with clinical interviews or validated symptom scales. Metabolic outcomes included body mass index (BMI), waist/hip ratio, low-density lipoprotein cholesterol (LDL-c)/ high-density lipoprotein cholesterol (HDL-c) ratio, and triglycerides. We compared the estimated means of the metabolic outcomes across the four groups (Cohen's d).

**RESULTS:**
Preliminary IPDMA results based on three cohorts (N~100,000) showed that, compared to people with neither CT nor depression, those with both CT and depression had the largest metabolic dysregulations with increased waist/hip ratio (d=0.18, SE=0.08, p=.026), LDL-c/HDL-c ratio (d=0.15, SE=0.01, p<.001),

and triglycerides (d=0.17, SE=0.04, p<.001) but not BMI (d= 0.17, SE=0.13, p=.194).

**CONCLUSION:**
Preliminary findings suggest that depressed patients with CT have the poorest metabolic health. The full results of the IPDMA using the 11 cohorts will be presented at ISAD 2023. Since the combination of CT and depression seems to be particularly harmful, promoting mental well-being after CT may reduce its impact on distal mental and somatic health (funded by Horizon 2020, grant 848158).

**Keywords:** adverse childhood experiences, cardiometabolic risk factors, depressive disorder, comorbidity

**P-034**

**Feasibility and acceptability of collecting umbilical cord tissue for prenatal cannabis research**

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[2]BC Provincial Toxicology Centre
[3]Department of Obstetrics and Gynaecology, University of British Columbia
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**OBJECTIVE:**
Large-scale longitudinal studies with biological samples are needed to examine the associations between prenatal cannabis use and birth and developmental outcomes. The aim of this study was to understand the feasibility and acceptability of collecting umbilical cord tissue for the purpose of cannabis use testing in a community sample.

**MATERIAL AND METHODS:**
This mixed methods study (a prospective cohort study and a qualitative descriptive study) was conducted in Vancouver, British Columbia between January 2021 and August 2022. The umbilical cord tissues were collected at birth and tested for the presence of cannabinoids. After completion of the study, participants completed an online open-ended questionnaire about their overall experience. Data were analyzed using descriptive and thematic analyses.

**RESULTS:**
Among the 85 eligible individuals, 57 people (67%) consented to the study. The cord tissue was collected for 39 participants (68.4%). The collection rates for participants with vaginal, elective and emergency cesarean delivery were 73.0%, 71.4%, and 53.8%, respectively and for those with spontaneous and induced labour were 81.5% and 50%, respectively. Four (7.0%) and seven participants (12.3%) reported prenatal cannabis use in direct and probing self-report questions, respectively. The agreement between any self-report and cord tissue test was moderate (kappa 0. 53, 95% CI 0.06–0.99). Qualitative findings were classified into five themes.

**CONCLUSION:**
The collection of cord tissue was perceived acceptable by most participants. Implementation of collection protocols for complex labours, a central hospital unit to liaise direct communications and active participants' involvement might increase the feasibility of future studies.

**Keywords:** Prenatal cannabis use, lifestyle, healthy behaviours, biological sample, feasibility

**P-035**

## Decreased Neutrophil to Lymphocyte Ratio Associates with Cognitive Improvement and Self-Reported Changes in Depressive Symptoms in Late-Life Depression Treated with Vortioxetine (Lu AA21004)

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Institute of Psychiatry, Psychology and Neuroscience

**OBJECTIVE:**
Previous meta-analysis suggested increased neutrophil to lymphocyte ratio (NLR) in depressed patients compared to healthy controls, but not platelet to lymphocyte ratio (PLR) nor monocyte to lymphocyte ratio (MLR), all of which are indicators of systemic inflammation. The present study aims to investigate inflammation level after an eight-week antidepressant trial in late-life depression, including their associations with depression and cognition outcomes.

**MATERIAL AND METHODS:**
Secondary analysis of an eight-week, double-blind, randomized study involving 321 elderly patients with major depressive episode. Treatment was either Lu-AA21004 (vortioxetine), duloxetine or placebo, with clinical (Montgomery–Åsberg Depression Rating Scale, MADRS and Geriatric Depression Scale, GDS) and cognitive (Digit Symbol Substitution Test, DSST and Rey Auditory Verbal Learning Test, RAVLT) measures administered at baseline and endpoint. Patients with blood tests administered at baseline and endpoint were included. Absolute numbers of monocytes, neutrophils and lymphocytes were measured from blood samples. Paired sample t-test and multiple linear regression were employed for analysis.

**RESULTS:**
NLR level reduced significantly in vortioxetine arm ($t(105) = 2.39$, $p < .05$), yet superiority to placebo appeared insignificant. Change in NLR during treatment predicted improvement in DSST ($\beta = -1.96$, $p < .05$), RAVLT delayed recall ($\beta = -1.87$, $p < .05$) and GDS reduction ($\beta = 1.82$, $p < .05$), yet not MADRS. MLR and PLR were neither decreased nor associated with clinical measures in vortioxetine group. No demographic or clinical factors at baseline were found to predict NLR changes.

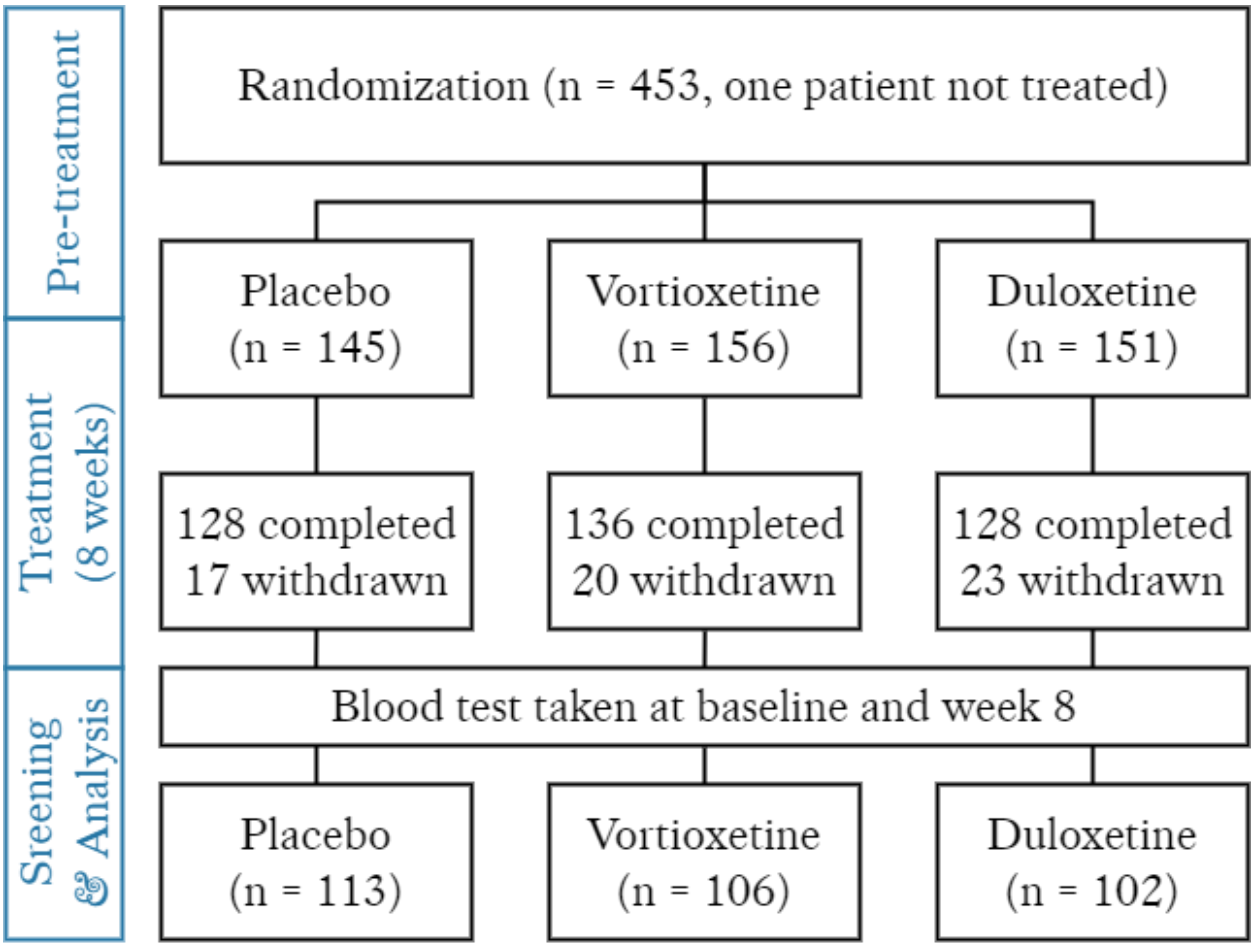
**CONCLUSION:**
The present study indicated that inflammation level decreased after vortioxetine treatment, which was associated with cognitive changes and self-reported depression meansure.

**Keywords:** late-life depression, cognitive functioning, inflammatory biomarker, neutrophil to lymphocyte ratio (NLR), vortioxetine, randomized controlled trial

**Baseline patient characteristics**

| Variables (M ± SD) | APTS (n = 452) | BTQS (n = 321) |
|---|---|---|
| Women [n (%)] | 155 (65.7%) | 111 (65.4%) |
| Age | 70.0 ± 3.3 | 69.9 ± 3.2 |
| MADRS total | 30.5 ± 3.3 | 30.5 ± 3.4 |
| HAMD-24 total | 29.0 ± 5.0 | 29.0 ± 5.0 |
| HAMA total | 19.5 ± 6.0 | 19.4 ± 6.1 |
| GDS total | 7.6 ± 2.2 | 7.6 ± 2.1 |
| DSST correct symbols | 45.1 ± 17.5 | 45.4 ± 18.0 |
| RAVLT acquisition | 22.0 ± 6.4 | 22.1 ± 6.3 |
| RAVLT delayed recall | 6.4 ± 3.1 | 6.3 ± 3.0 |
| MLR | 0.2 ± 0.1 | 0.2 ± 0.1 |
| NLR | 2.4 ± 1.1 | 2.3 ± 1.0 |
| PLR | 135.5 ± 50.5 | 132.5 ± 46.6 |

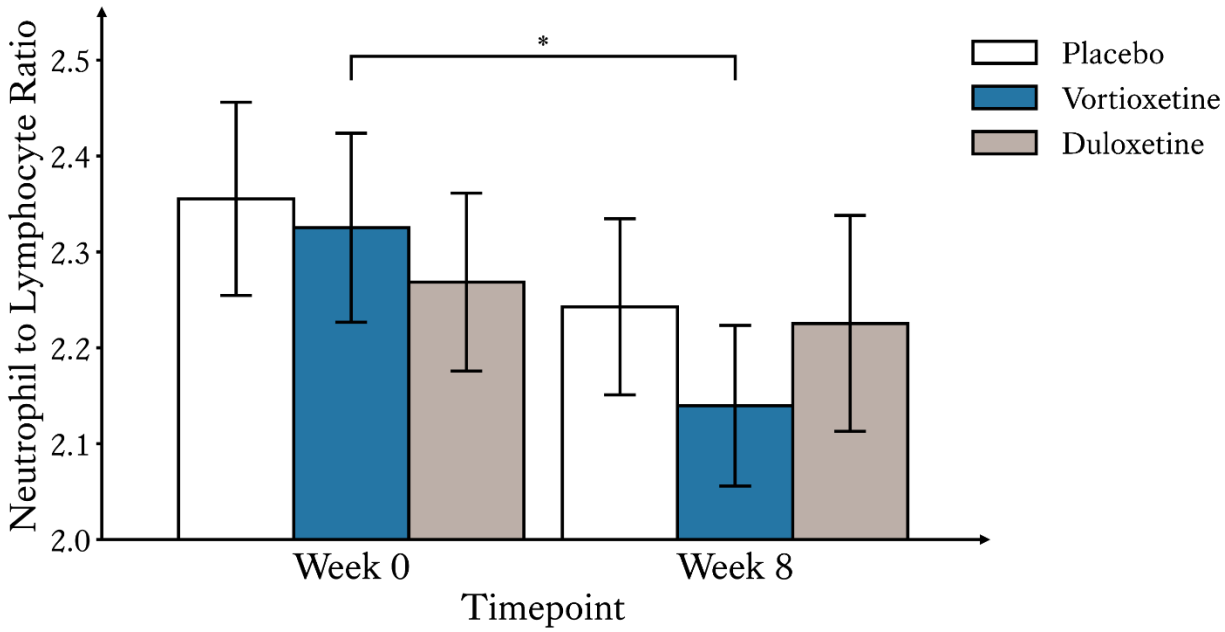
**Flowchart of patient disposition and analysis**




**Inflammatory biomarkers predicting changes in clinical factors in vortioxetine arm**

| Predictor | MADRS | HAMD-24 | GDS | DSST correct symbols | RAVLT acquisition | RAVLT delayed recall |
|---|---|---|---|---|---|---|
| MLR | *ns.* | *ns.* | *ns.* | *ns.* | *ns.* | *ns.* |
| NLR | *ns.* | *ns.* | $\beta = 1.82$<br>$p = .02$ | $\beta = -1.96$<br>$p = .04$ | *ns.* | $\beta = -1.87$<br>$p = .03$ |
| PLR | *ns.* | *ns.* | *ns.* | *ns.* | *ns.* | *ns.* |

**NLR level pre- to post- treatment**


Neutrophil to Lymphocyte Ratio
2.5
2.4
2.3
2.2
2.1
2.0
*
Placebo
Vortioxetine
Duloxetine
Week 0
Week 8
Timepoint

**P-036**

**The association between sex hormones and suicidality in female psychiatric patients**

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[2]Faculty of dental medicine and health Osijek
[3]School of Medicine Zagreb
[4]Sestre Milosrdnice University Hospital Center

**OBJECTIVE:**
Attempts to commit suicide are more common in women. Numerous studies have been conducted on the connection between hormonal status, menstrual cycle and suicidality. These studies showed contradictory results.The aim of this study was to examine the association between sex hormones and suicidality in female inpatients with different psychiatric diagnoses.

**MATERIAL AND METHODS:**
A total of 39 adult hospitalized patients, primarily with a diagnosis of affective disorder or borderline personality disorder, participated in the study. 18 patients were in the first phase of the menstrual cycle, and the other 21 were in the second phase. The average age of the sample was 28 years. Sex hormone values were collected by laboratory blood analysis. All patients completed the SBQ-R suicidality scale.

**RESULTS:**
In patients who were in the first phase of the menstrual cycle at the time of the examination, no statistically significant correlations were found between different sex hormones and suicidality, while in patients who were in the second phase of the cycle, significant negative correlation was found between the value of luteinizing hormone and the total score on the suicidality scale (rho=-0.612, p=0.005). The higher the LH values, the lower the suicidality (and the probability of committing suicide in the future).

**CONCLUSION:**
In patients who are in the second phase of the menstrual cycle there is a significant negative association between LH and suicidality. More studies are needed to confirm this finding.

**Keywords:** menstrual cycle, sex hormones, suicidality, woman

**P-037**

**Prediction of Depression Relapse in Adolescents using Wearables and Multimodal Machine Learning**

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[3]Department of Human Biology, University of Toronto, Toronto, Canada
[4]Division of Engineering Science, University of Toronto, Toronto, Canada
[5]Cundill Centre for Child and Youth Depression at the Centre for Addiction and Mental Health, Toronto, Canada
[6]Vancouver Island Health Authority, Vancouver, Canada

**OBJECTIVE:**
To study the use of wearables and multimodal machine learning for prediction of MDD relapse in adolescents.

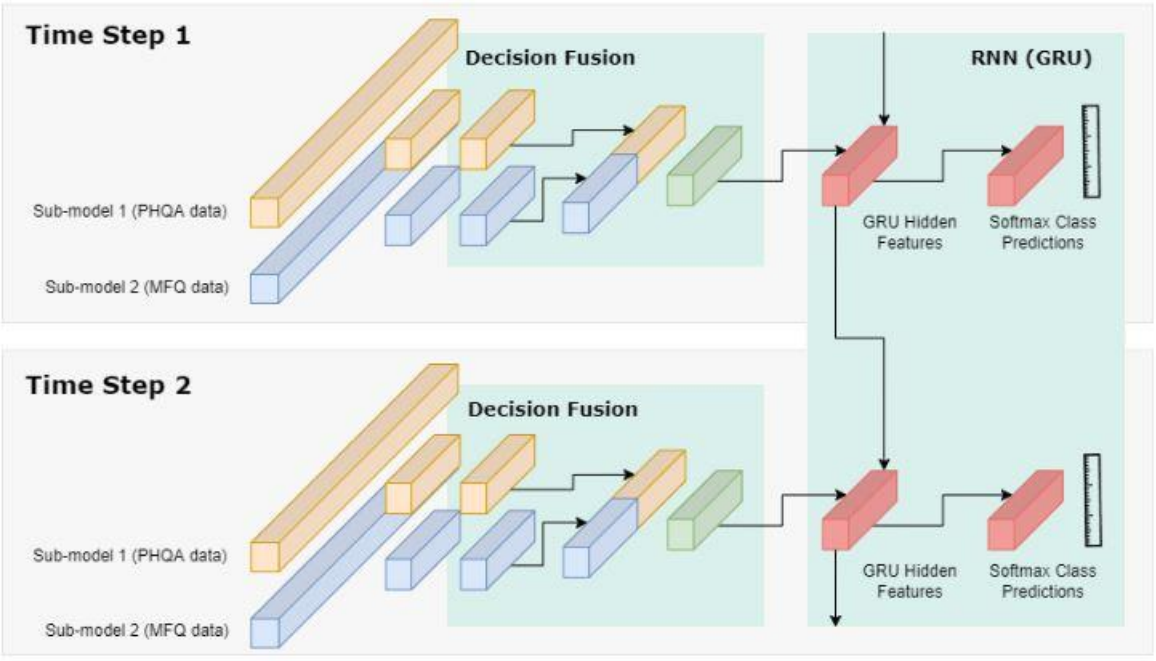
**MATERIAL AND METHODS:**
Wearable data is collected through the Depression Early Warning study conducted at the Centre for Addiction and Mental Health, Toronto, Canada. One-hundred-thirty clinically depressed adolescents are equipped with the GeneActiv wearable device and a smartphone to collect Ecological Momentary Assessment (EMA) data. Eight follow-up visits are conducted where clinical depression surveys such as CDRS, HDRS, video and speech data are collected producing a rich multimodal dataset for analysis.

**RESULTS:**
Using standard clinical surveys as (gold standard) baseline, predictions of depression relapse based on applying multimodal machine learning to data collected from wearables devices, EMA, and video interviews are assessed. A depression relapse prediction accuracy of 83% is achieved through applying logistic regression to baseline surveys. An event is labelled as relapse-positive if the difference between CDRS scores in consecutive visits is >= 50%.
EMR data and patient video data were employed to predict CDRS and HDRS scores. For EMR, a mean absolute error of 0.29 is observed across 11 prediction classes, and for video, an error of 0.80 is recorded across 5 classes. This work is being adapted for binary relapse prediction and integrated into the holistic multimodal approach.

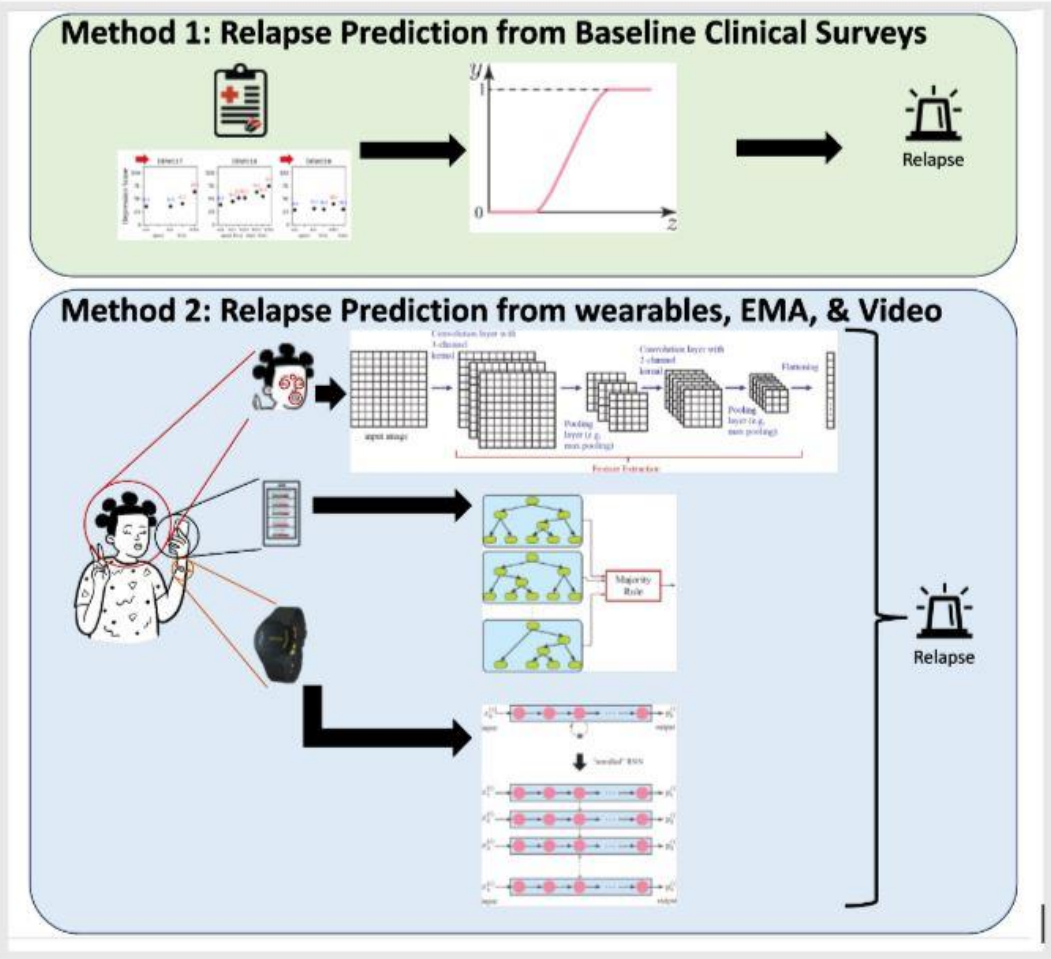
**CONCLUSION:**
EMA and wearable data have the potential to predict early-stage relapse, providing an opportunity for proactive patient management in-between follow-up appointments. Through real-time data capture and by monitoring changes in patient experiences and activity patterns, machine learning-based tools can support the detection of relapse.

**Keywords:** Depression, multimodal machine learning, prediction, mental health

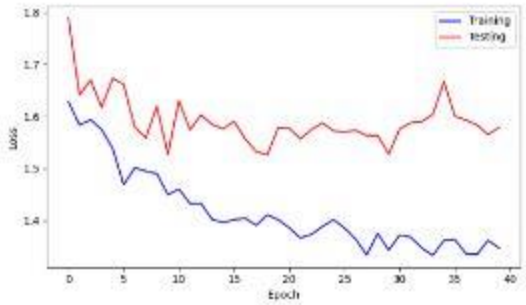
**EMR-based Relapse Prediction Pipeline**

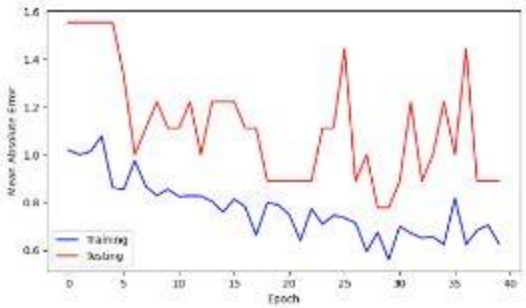


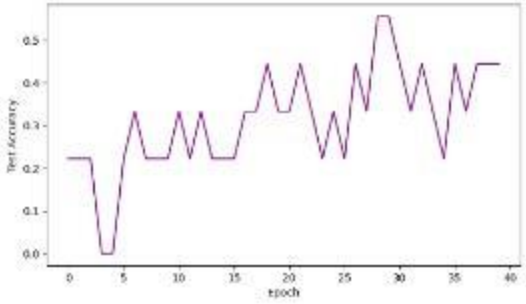

**Overall Relapse Prediction Analysis Pipeline**



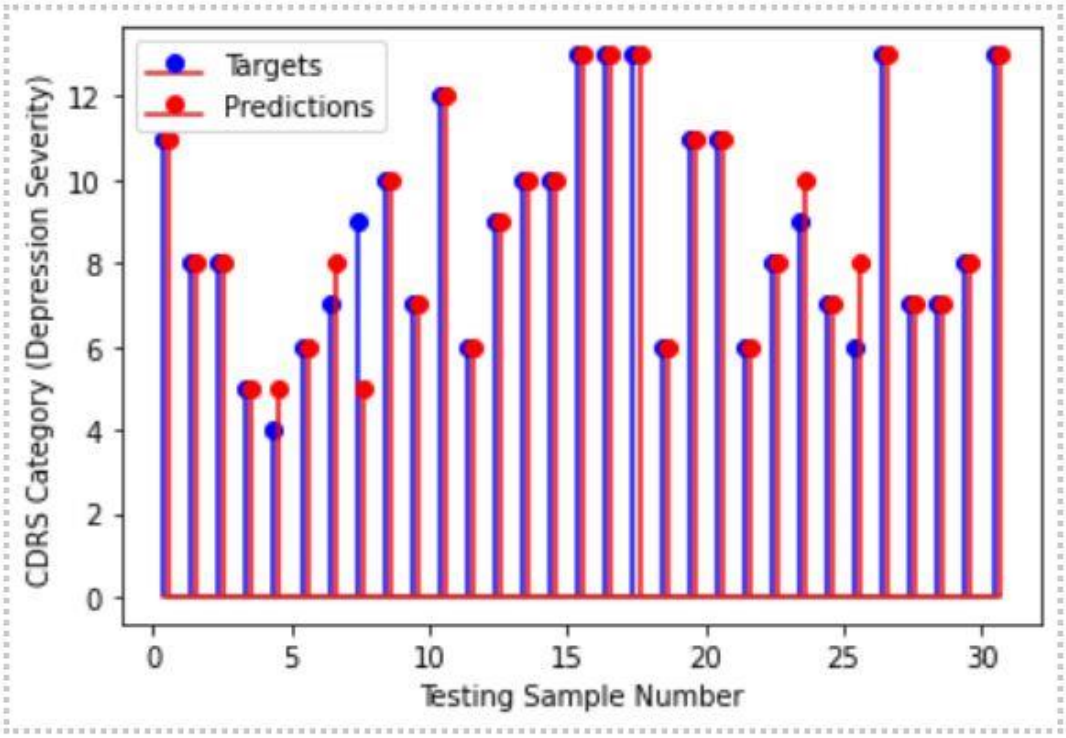

**Preliminary results – Video-based Depression Score prediction**



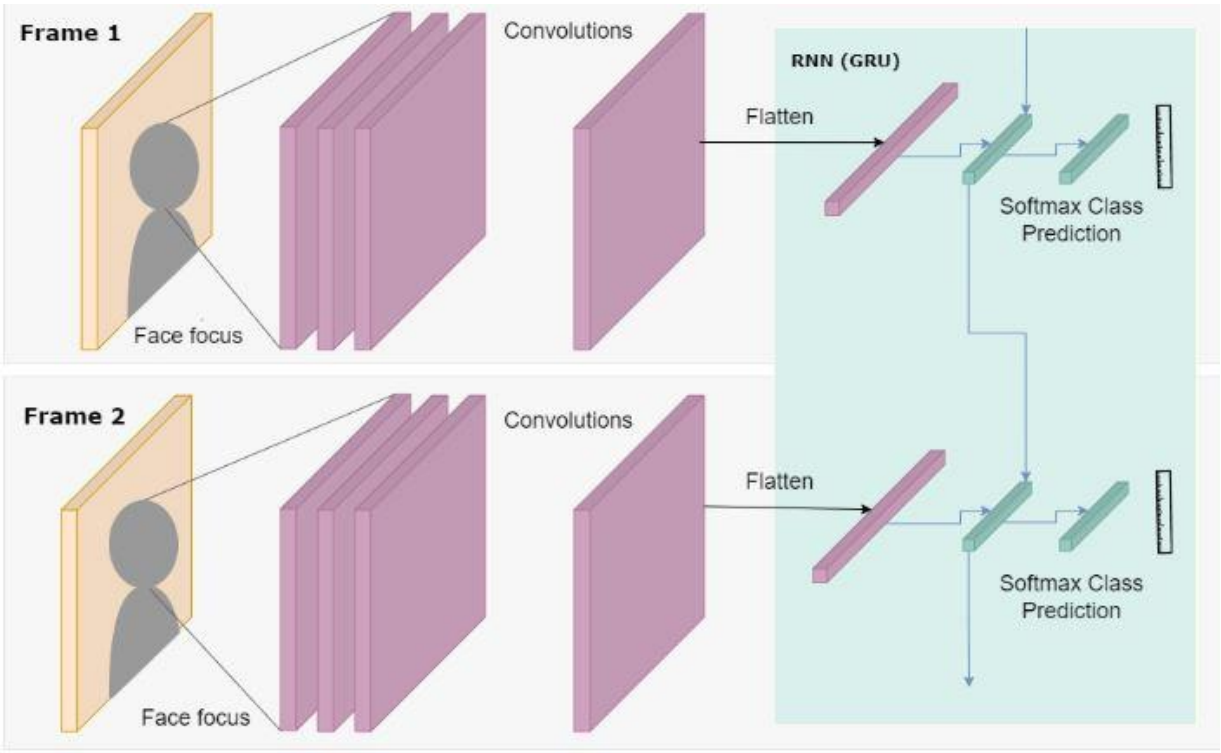




**Preliminary results –EMR-based Depression Score prediction**




**Video-based Relapse Prediction Pipeline**


Frame 1
Face focus
Convolutions
RNN (GRU)
Flatten
Softmax Class Prediction
Frame 2
Face focus
Convolutions
Flatten
Softmax Class Prediction

**P-038**

**Predicting Adolescent Depression Relapse by Integrating Digital Phenotypes**

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[2]Cundill Centre for Child and Youth Depression at the Centre for Addiction and Mental Health, Toronto, Canada
[3]Vancouver Island Health Authority, Vancouver, Canada

**OBJECTIVE:**
The objective of this study is to explore the application of machine learning for the prediction of relapse events in adolescents suffering from Major Depressive Disorder using actigraphy and ecological momentary assessment (EMA) data.

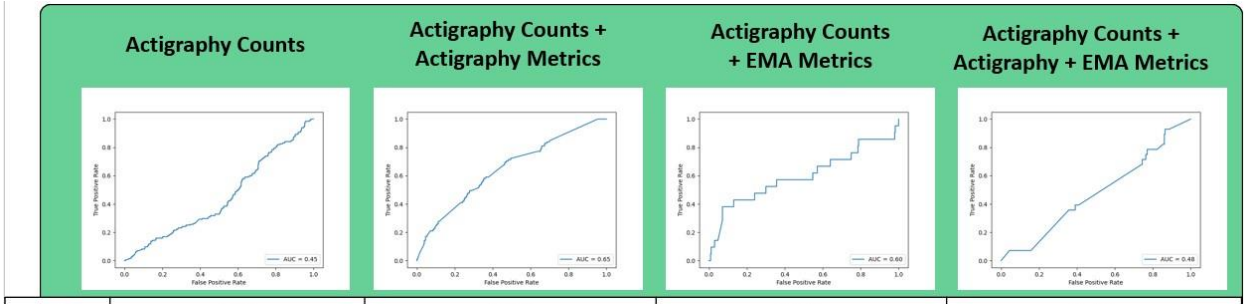
**MATERIAL AND METHODS:**
Data was collected from 114 adolescents aged between 12 and 21 who were participating in a depression research study at the Centre for Addiction and Mental Health. They made up to 8 visits where a psychiatrist would assess their level of depression by conducting a Children's Depression Rating Scale (CDRS) survey. Between visits, participants would wear the GeneActiv watch to provide actigraphy data as well as answer survey questions to provide EMA data. Any subject that experienced one visit with a CDRS score of less than 40 followed by another visit with a score of greater than 40 was labelled as undergoing a relapse event. Various machine learning (ML) methods including support vector machines, random forests, and neural networks in combination with fusion methods were used to predict relapse events.

**RESULTS:**
After training the above methods on 67% of the participants and testing them on the remaining ones, it was determined that feature fusion techniques applied to actigraphy and EMA metrics produced the highest area under the receiver operating characteristic curve of 0.72. Another novel technique combining raw actigraphy counts with the aforementioned metrics yielded areas of up to 0.65.

**CONCLUSION:**
Compared to using individual digital phenotypes, there is much promise that can be shown in the integration of modalities for the prediction of relapse events in adolescents.

**Keywords:** machine learning, neural networks, actigraphy, ecological momentary assessment, fusion, depression

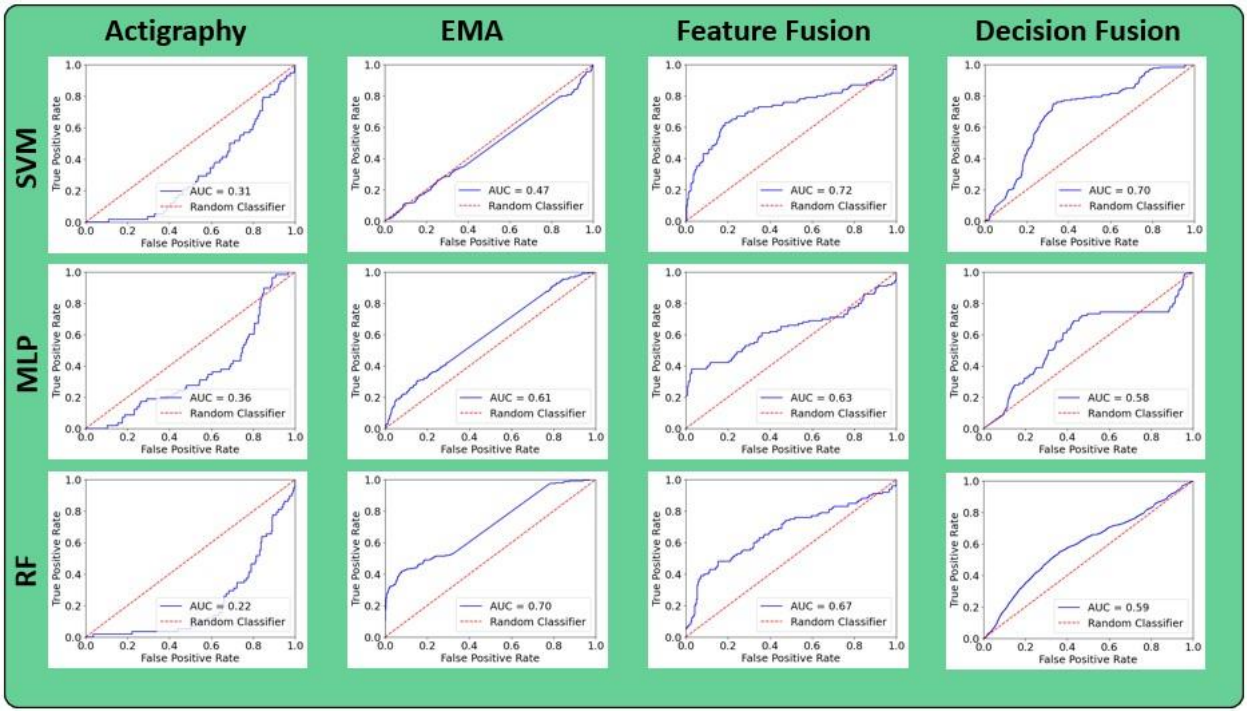
**ROC Curves and Performance Metrics of Actigraphy Counts/Metrics and EMA Metrics**




| | | | | |
|---|---|---|---|---|
| **AUC** | 0.45 | 0.65 | 0.60 | 0.48 |
| **Sensitivity** | 98.46% | 70.48% | 38.10% | 92.86% |
| **Specificity** | 4.17% | 52.73% | 92.86% | 13.53% |
| **Accuracy** | 10.84% | 53.77% | 89.64% | 21.09% |
| **Precision** | 7.25% | 8.43% | 25.00% | 10.16% |
| **F1 Score** | 13.51% | 15.06% | 30.19% | 18.31% |

*This figure shows the various ROC curve and performance metrics on the test subjects using actigraphy metrics, actigraphy counts, and EMA metrics.*

**ROC Curves of Actigraphy and EMA Metrics**




*This figure shows the various ROC curve results on the test subjects using actigraphy and EMA metrics.*

**P-039**

## Integrating RNA Editing Variants and Artificial Intelligence for Accurate Differentiation of Bipolar Disorder from Unipolar Depression

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[2]Synlab Italia, Genetics Unit, Castenedolo (BS), Italy
[3]Department of Molecular and Developmental Medicine, Division of Psychiatry, University of Siena School of Medicine, Siena, Italy
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**OBJECTIVE:**
The accurate differentiation between Bipolar Disorder (BD) and unipolar depression poses a significant challenge due to the overlapping depressive symptoms that are the core presentations of both disorders. Misdiagnosis during depressive episodes (especially first-ever depressive episodes) not only delay appropriate treatment, but also contributes to the inadequate management of the condition. To address this critical issue, a novel diagnostic test myEDIT-B™ has been developed that combines RNA editing variants modifications with depression subtypes and the utilization of artificial intelligence (AI) algorithms.

**MATERIAL AND METHODS:**
The innovative test myEDIT-B™ harnesses the potential of RNA editing variants, which have been implicated in psychiatric disorders, to identify distinctive molecular signatures associated with BD. By integrating these genetic markers with clinical information, the test can effectively discriminate BD patients from those with unipolar depression. We will present the results of the pilot utilization of this test in a small sample of Italian patients with depression.

**RESULTS:**
The implementation of the novel diagnostic test myEDIT-B™ promises to significantly reduce the misdiagnosis delay of BD, enabling a timelier initiation of appropriate treatment strategies. By providing clinicians with an objective and reliable tool, early identification of BD among depressed patients becomes achievable, leading to improved outcomes and enhanced management of the condition. Moreover, the utilization of RNA editing variants and AI paves the way for personalized medicine approaches, facilitating the tailoring of treatments based on an individual's unique genetic and phenotypic profile.

**CONCLUSION:**
The results of the study will have significant implications to improve the early and timely detection of BD.

**Keywords:** bipolar disorder, unipolar depression, early diagnosis

**P-040**

## Rapid change in time perception predicts treatment response to repetitive transcranial magnetic stimulation for major depressive disorder

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**OBJECTIVE:**
We investigated whether a diurnal variation in time perception could predict treatment response to repetitive transcranial magnetic stimulation (rTMS) treatment for major depressive disorder (MDD).

**MATERIAL AND METHODS:**
We administered a 10-second time production task to 13 inpatients with MDD in the morning and afternoon over 3-6 weeks of prefrontal rTMS with 5 sessions per week. Depressive symptoms were evaluated at baseline and after treatment using the Hamilton Depression Rating Scale (HDRS).

**RESULTS:**
Forty-four percent of patients responded to treatment. We observed a diurnal variation in produced time intervals (PTIs), with PTIs being shorter in the afternoon than in the morning ($F=7.24$, $p=0.025$). There was a trend toward lower PTI after rTMS treatment, compared to that before treatment ($F=4.20$, $p=0.071$). A greater diurnal variation in PTI at the first week of treatment was associated with a lower score in post-treatment HDRS ($\beta=0.67$, $p=0.037$).

**CONCLUSION:**
A diurnal variation in time perception at the beginning of the rTMS treatment could be a potential biomarker for the treatment response in MDD. Considering evidence for the link between time perception and circadian phase markers (e.g., melatonin secretion), our findings suggest that even though rTMS is a non-chronotherapeutic treatment, it could achieve antidepressant effect via modifying circadian-related pathophysiology of MDD.

**Keywords:** time perception, treatment response, repetitive transcranial magnetic stimulation, major depressive disorder, circadian rhythm

**P-041**

## Compromised sleep quality is associated with inflammation and altered cardiorespiratory coupling in patients with depressive disorders

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**OBJECTIVE:**
We investigated the involvement of inflammation and cardiovascular autonomic control (CAC) alterations as pathways at the basis of the link between depressive disorders and impaired sleep quality.

**MATERIAL AND METHODS:**
We enrolled 16 patients with unipolar and bipolar depression from the Psychiatric Unit, Policlinico Hospital (Milan). Depression severity was assessed through the Hamilton Depression Rating Scale (HAM-D). Sleep efficiency, waking after sleep onset (WASO) time and cyclic variation of heart rate index (CVHRI n° events/hour – index for sleep apnoea risk evaluation) were derived using a wireless monitor patch for at least 2 nights. Pittsburgh Sleep Quality Index (PSQI) was administrated to evaluate the self-reported last month sleep quality and blood samples were collected to assess the inflammatory profile. ECG and respiration were recorded for 10 minutes at rest to evaluate the CAC and the cardiorespiratory coupling through heart rate variability spectral analysis. Correlation analysis was performed to assess the relationship between sleep, CAC and inflammation.

**RESULTS:**
Moderate-to-severe depressive symptoms and sleep disorders were found in 81% and 94% of patients, respectively. Lower cardiorespiratory coupling was associated with higher CVHRI scores. Higher TNF-α levels were associated with lower sleep efficiency and higher WASO time. Moreover, lower sleep quality was positively associated with lower levels of TREM-2, an anti-inflammatory biomarker.

**CONCLUSION:**
A compromised cardiorespiratory coupling resulted significantly associated with higher risk of sleep-apnoea in patients with depressive disorders. A significant link between pro-inflammatory state and altered sleep was found. Therefore, targeting CAC and inflammation could improve sleep quality in these patients and possibly improve depressive symptoms.
**Keywords:** cardiovascular autonomic control; sleep disorders; depressive disorders

**P-042**

## General Pathogenetic Mechanisms of Affective Disorders and Multiple Sclerosis: The Role of Interleukin Imbalance in the Progression of Comorbid Pathology

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**OBJECTIVE:**
Among the many comorbid pathologies, it is of considerable interest to study and compare the pathogenetic mechanisms of neurological and mental disorders that combine the clinical manifestations of multiple sclerosis (MS) and affective disorders. The purpose of the study is to determine the general immunopathological mechanisms of affective disorders and MS, to analyze the role of cytokine status imbalance in the mutual increase in the severity of clinical symptoms in comorbid pathology, and to identify prognostic markers of disease progression.

**MATERIAL AND METHODS:**
On the basis of electronic Russian and international databases for the period 2017 - 2022, a theoretical analysis of pathophysiological mechanisms of autoimmune CNS damage in MS and affective disorders was carried out. To search for literary sources, following resources were used: https://elibrary.ru/, https://www.ncbi.nlm.nih.gov/pubmed/, https://cyberleninka.ru/, 10 domestic and 25 foreign sources were cited.

**RESULTS:**
The mechanisms of development of mental affective disorders and MS have common pathogenetic features and are characterized by a violation of pro-inflammatory cytokine reactions, autoimmune nature of changes in structures of central nervous system (CNS). The similarity of immunological disorders underlying the pathogenesis of various forms of MS and affective disorders is of undoubted interest in terms of developing common approaches to prevention and treatment of an identified imbalance in interleukin status in neurological and mental diseases.

**CONCLUSION:**
Identification of mutually reinforcing changes in the interleukin status, determination of features of the course of immune imbalance in multiple sclerosis and hypothymic disorders in various pathologies of mental sphere is necessary for a deeper understanding of neuroimmune interactions.

**Keywords:** Affective Disorders, Multiple Sclerosis, Neuroimmune Mechanisms

**P-043**

## Perceived discrimination and mental health in the Japanese general population; Role of anxiety and depressive symptoms

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**OBJECTIVE:**
Research has shown that discrimination is prevalent in many countries and associated with poorer mental health. However, little is known about discrimination and its effects in Japan. To address this deficit this study examined the association between perceived discrimination and mental health in the Japanese general population and the role of general stress in these associations.

**MATERIAL AND METHODS:**
Data were analyzed from 1245 individuals (age 18-89) that were collected in an online survey in 2021. Perceived discrimination was assessed with a single-item measure as was lifetime suicidal ideation. Depressive and anxiety symptoms were respectively measured with the Patient Health Questionnaire (PHQ-9) and Generalized Anxiety Disorder-7 (GAD-7) scale. General stress was assessed with the Perceived Stress Scale (PSS-14). Logistic regression was used to assess associations.

**RESULTS:**
Perceived discrimination was prevalent (31.6%) in the study sample. In fully adjusted analyses discrimination was associated with all of the mental health outcomes/general stress with odds ratios (ORs) ranging from 2.78 (suicidal ideation) to 6.09 (general stress) among individuals with a high level of discrimination. When the analyses were adjusted for general stress (as a continuous score) there was a large reduction in the ORs although high discrimination continued to be significantly associated with anxiety (OR: 2.21), while a mid level of discrimination was related to depressive symptoms (OR: 1.87) and had a borderline association with suicidal ideation.

**CONCLUSION:**
Perceived discrimination is common in the Japanese general population and associated with worse mental health, with stress possibly playing a role in this association.

**Keywords:** Discrimination, Anxiety, Depression, Japan, Suicidal ideation

**P-044**

## Sleep architecture and pre-sleep cortical arousal in euthymic bipolar disorder: a high-density EEG study

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**OBJECTIVE:**
Sleep disturbances are distinguishing features of Bipolar Disorder (BD). Whereas alterations in sleep architecture during depression and mania are well known to occur, if and how they are carried over during periods of remission remains unclear. Euthymic phases are not usually characterized by full-blown sleep disruptions, although some abnormalities may still be present. In this study, we aimed to resolve conflicting findings from previous studies, while simultaneously probing for signatures of pre-sleep cortical arousal and their relation to sleep architecture.

**MATERIAL AND METHODS:**
Whole–night, high–density sleep electroencephalography (EEG) recordings and several psychometric tests were obtained from N=16 euthymic BD patients and N=16 age- and sex-matched healthy control subjects. Sleep architecture was determined according to standard guidelines. A customized signal analysis was designed to compare mean group 0,5 – 80 Hz frequency bands in the EEG signal preceding sleep onset.

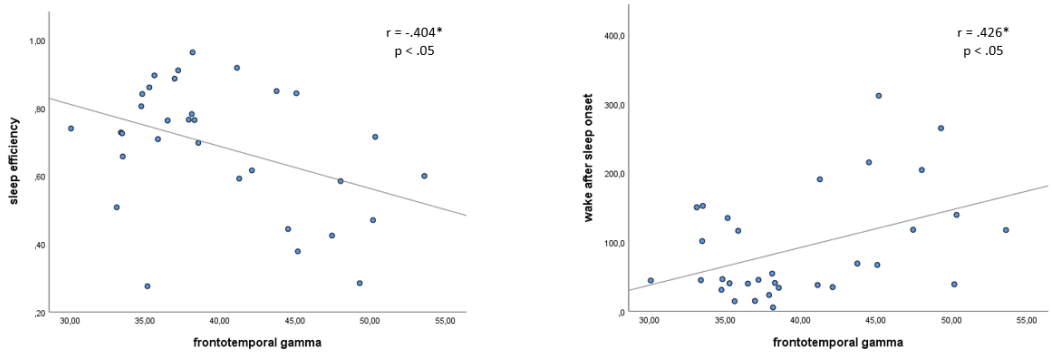
**RESULTS:**
Euthymic BD patients showed increased sleep onset latency, REM density, and poorer sleep efficiency as compared to healthy controls ($p<.05$). Conversely, total sleep time and sleep substages duration did not differ between groups ($p=.88$). Moreover, we found pre-sleep increased gamma power in left frontotemporal areas in BD patients ($p<.01$), which was associated with worse sleep efficiency and poorer sleep continuity across groups ($p<.05$).

**CONCLUSION:**
Taken together, our findings suggest that sleep in euthymic BD is preserved in duration, but altered in its onset, efficiency and REM density. Some of these alterations additionally relate to a neural signature of

cortical arousal (i.e., increased frontotemporal gamma), which may influence the quality (but not quantity) of subsequent sleep.

**Keywords:** bipolar disorder, sleep architecture, pre-sleep cortical arousal

**Relationship between cortical arousal, sleep efficiency and sleep continuity**




*This figure shows Pearson's correlation between the power in left frontotemporal gamma on the one hand, and sleep efficinecy and sleep continuity on the other hand. Sleep efficiency was computed as the total sleep time out of the time spent in bed. Sleep continuity was considered in relation to the time spent awake after having initially fallen asleep.*

**P-045**

**Negative emotion mindsets and affective disorders: a two-wave school-based longitudinal study**

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**OBJECTIVE:**
Mindsets of negative emotions (i.e., the beliefs individuals hold about whether negative emotions are malleable or unchangeable), may play a crucial role in affective disorders. On the other hand one's affective disorder symptoms may also influence one's mindset about negative emotions. This study aims to examine the association between negative emotion mindsets and affective disorders.

**MATERIAL AND METHODS:**
A total of 2,206 adolescents (258 in Grades 5 and 6 and 1,948 in Grades 7 to 11, age range 10 to 20, age mean = 13.99, SD=1.59, male n=985, 44.7%) participated in a two-wave classroom survey administered by trained research assistants in two academic years with an interval of one year. We measured demographic factors, family structure, family economic conditions, mindsets of depression, anxiety and stress, and subjective well-being and depression, anxiety and stress symptoms. Cross-lagged analyses were conducted to examine the relations between negative emotion mindsets (indexed by anxiety, depression and stress) and affective disorder symptoms (depression, anxiety and stress).

**RESULTS:**
Results showed that adolescents who believed negative emotions can be changed at Time 1 predicted less symptoms at Time 2 while affective disorder measures at Time 1 also predicted growth mindsets of negative emotions at Time 2. The effect sizes of the associations ranged from medium (0.11) to large (0.19) after controlling gender, age, and family factors.

**CONCLUSION:**
These findings supports the reciprocal effects model between affective measures and mindset of negative emotions. The findings can help care professionals in the education and social work contexts to promote children's and adolescents' mental health.

**Keywords:** fixed mindset, growth mindset, cross-lagged model, children and adolescents, depression, anxiety

**P-046**

## No change in neural activity related to response inhibition following cognitive remediation in bipolar disorder: findings from a randomized controlled trial

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**OBJECTIVE:**
Although cognitive impairment is prevalent in bipolar disorder (BD), evidence-based cognitive treatments are limited. We recently found that 12-week cognitive remediation (CR) may improve working memory and executive functioning in euthymic patients with BD compared to treatment-as-usual (TAU). Here, we investigate potential neural activity changes associated with cognitive improvement following CR.

**MATERIAL AND METHODS:**
We considered longitudinal data from 24 euthymic participants (CR: n=12, TAU: n=12). All completed a response inhibition functional MRI (fMRI) paradigm, the attentional-capture version of the Stop Signal Reaction-Time (SSRT) task, before (W0) and after (W13) the intervention period, using a 3T-MR750 GE scanner. Regions-of-interest (ROIs) data were extracted with the MarsBaR toolbox for SPM-12. ROIs were cortical areas previously linked to response inhibition in BD, including the right inferior frontal gyrus (rIFG). Activation changes in selected ROIS were compared between groups using repeated measures general linear models.

**RESULTS:**
No demographic differences were detected between groups (age: 38.9; female: 69.2%). Those receiving CR showed moderate post-treatment improvements in working memory and executive functioning compared to controls. However, CR relative to TAU was not significantly associated with SSRT-related changes in neural activity of pre-defined ROIs (all $p>0.05$). For SSRT behavioural measures, there was only a trend for CR vs. TAU in the accuracy of the stop signal condition ($p=0.06$).

**CONCLUSION:**
SSRT might be suboptimal to capture neural activity changes associated with observed cognitive gains and rIFG might not represent a neural biomarker for pro-cognitive CR effects.

**Keywords:** Bipolar disorder, cognitive remediation, fMRI; SSRT, response inhibition

**P-047**

## Combined treatment of tDCS and Metacognitive Therapy in Major Depressive Disorder: preliminary results of an experimental study

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**OBJECTIVE:**
Transcranial direct current stimulation (tDCS) and Metacognitive Therapy (MCT) can reduce depressive symptoms as monotherapies or combined with pharmacotherapy. Here, we investigated the effectiveness of combining them in patients affected by Major Depressive Disorder.

**MATERIAL AND METHODS:**
So far, twenty-eight participants (7 males, mean age 44.5±15.1) were recruited and randomly assigned to three experimental conditions: (A) real tDCS+sham MCT, (B) real tDCS+MCT, (C) sham tDCS+MCT. The treatment lasted 8 weeks, during which participants had weekly MCT (B and C) or psychological interview (A) sessions following tDCS (three times a week for the first three weeks and then once a week). tDCS was delivered for 20 minutes simultaneously with an attentional training (1.5 mA, anode over the left dorsolateral prefrontal cortex). Standardized clinical questionnaires were used to assess depressive symptoms as primary endpoints, anxiety, and rumination as secondary. Questionnaires were completed before and after the treatment and at four different follow-ups, 2 weeks, 3, 6 and 12 months after treatment end.
Data were analyzed using linear mixed models, including the effect of time (3 levels: T0, T1, and 2 weeks), group (3 levels: A, B, C), and their interaction as fixed factors plus the random intercept of participants.

**RESULTS:**
Preliminary results suggested an effect of time, with symptoms reduction after treatment in the Beck Depression Inventory ($X^2_{(2)}=49.68, p<.001$), Beck Anxiety Inventory ($X^2_{(2)}=25.16, p<.001$) and in Ruminative Responses Scale ($X^2_{(2)}=21.88, p<.001$).

**CONCLUSION:**
Completion of the sample and the data collection will clarify the effect of interaction between time and group and if combined treatments can potentiate symptom reduction.

**Keywords:** tDCS, psychotherapy, neurostimulation, neuromodulation, major depressive disorders, combination treatment

**P-048**

## Correlation between sertraline plasmatic levels and antidepressant efficacy in depressive disorder: a pilot study.

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**OBJECTIVE:**
Pilot study of the correlation of sertraline (SER) and its metabolite (CSER) plasmatic concentrations with response or remission of depressive symptoms in depressive disorder

**MATERIAL AND METHODS:**
Rbservational, retrospective study of 37 patients previously diagnosed of depressive disorder (ICD-11 criteria) treated with sertraline. We monitored symptoms intensity using Hamilton Rating Scale for Depression (HRSD) at the beginning of the treatment and after 30 days, measuring response (a 50% decrease in the scale score compared to baseline), remission (HTSD≤7) and percentage of response.

**RESULTS:**
Out of our 37 patients (38% male and 62% female) we found a significant correlation between total doses of sertraline and CSER plasmatic concentrations after 30 days of treatment (p=0,028; CI95% 0,05-0,83). We also found a negative relationship between CSER plasmatic concentrations after a month of treatment and response, (r=-0,7452, p=0,000), remission (r=-0,7941, p=0,000) and percentage of response (r=-0,9182, p=0,000) (Pearson's correlation).

**CONCLUSION:**
Plasmatic concentrations of sertraline after 30 days of treatment may offer an opportunity of dose adjustment to optimize risk/benefit balance in the treatment of depressive disorder, Further analysis with higher sample sizes are required, including pharmacokinetic and pharmacodynamic genetic polymorphisms and other clinical variables to determine the clinical utility of these findings.

**Keywords:** Sertraline, plasmatic concentrations, Hamilton Rating Scale for Depression (HRSD).

**P-049**

## Risk factors for Complex Pharmacotherapy in Bipolar Disorder: A Comprehensive Study in a real-world population

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**OBJECTIVE:**
The treatment of bipolar disorder often requires a multifaceted pharmacological approach comprising mood stabilizers, antipsychotics, and antidepressants, to stabilize mood swings and minimize the risk of relapse. Tailored medications in bipolar disorder consider individual symptoms and psychiatric comorbidities. We designed a naturalistic study to identify clinical features implicated in complex pharmacological regimens.

**MATERIAL AND METHODS:**
100 bipolar inpatients were included in our study. Socio-demographic and clinical data were recorded, including age at onset, age at mood stabilizers onset, lifetime episodes and number of hospitalizations, number of psychotropic drugs, psychiatric comorbidities (psyC) and personality disorder (PD) diagnosis. Complex pharmacotherapy (CP) was defined as the administration of more than three psychotropic drugs.

**RESULTS:**
We found that bipolar patients with complex pharmacotherapy were older at the onset of mood stabilizers (No-CP vs CP, mean age 35 vs 44 years, p=0.010*), had a longer illness duration (No-CP vs CP, 12 vs 23 years, p=0.005*), and a higher number of lifetime hospitalizations (No-CP vs CP, 2 vs 4, p=0.008*). Deepening the analyses, statistically significant associations were found between complex pharmacotherapy and both psychiatric comorbidities (no-psyC vs psyC, 12 vs 74, p=0.044**) and personality disorders (no-PD vs PD, 39 vs 47, p=0.021**). *Mann-Whitney U test; **Chi-squared test.

**CONCLUSION:**
This study highlights some clinical features associated with CP in bipolar disorder and paves the way for future research aimed at understanding how complex pharmacotherapy may be influenced by or impact the course of bipolar disorder. Considering these factors in treatment planning and personalized approaches is crucial for optimizing outcomes in bipolar patients.

**Keywords:** Bipolar Disorder, Phamacotherapy, risk factors, treatment

**P-050**

**Impact of Bipolar Disorder on Clinical Features of Breast Cancer: A Comparative Analysis**

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**OBJECTIVE:**
Recent data shows an increased risk of breast cancer in patients with bipolar disorder (BD). However, the effect of BD on the clinical features of breast cancer (age at breast cancer diagnosis, presenting cancer stage, survival) is largely unknown. We aimed to compare patients with only breast cancer (BC-Only) and patients with BD comorbidity (BC+BD) for breast cancer clinical features.

**MATERIAL AND METHODS:**
Our sample included female patients enrolled in the Mayo Clinic Breast Disease Registry (MCBDR). All available information from electronic health records were used to ascertain the diagnosis of BD. Clinical features of breast cancer and lifestyle characteristics of individuals were obtained from the MCBDR data repository.

**RESULTS:**
Final analysis included 9390 BC-Only and 59 comorbid BC+BD patients. Age at breast cancer diagnosis was earlier in the BC+BD group (52.8±10.5 vs 57.1±12.5, p=0.005). Presenting stage of breast cancer or survival did not differ between groups (both p>0.05). BD diagnosis was consistently associated with earlier age at breast cancer diagnosis after adjusting for potential confounders that differed among groups, such as smoking, exercise, and BMI (β=-5.88, p=0.016). Among BC+BD patients, lifetime lithium use was not associated with age at breast cancer diagnosis, presenting cancer stage, or survival (all p>0.05).

**CONCLUSION:**
Our findings highlight that BD diagnosis is associated with breast cancer development approximately five years earlier than non-BD individuals even after adjusting for confounders, suggesting a possible shared mechanism beyond lifestyle characteristics. Future studies that examine the shared genetic mechanism of breast cancer and BD could provide insight into their pathophysiology.

**Keywords:** bipolar disorder, breast cancer

**P-051**

## Towards the First Biomarker Test for Bipolar Spectrum Disorder: An Evaluation of 199 Patients in an Outpatient Setting

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**OBJECTIVE:**
Diagnosis of bipolar spectrum disorder, particularly unspecified or subthreshold types, is often challenging, resulting in significant diagnostic delays and high incorrect diagnosis rates. The delay in diagnosis in the UK for bipolar I and II types is a staggering 10–13 years, with only 15% correctly diagnosed without delay. The HCL-32 questionnaire is adequate, but not sufficient by itself. We have investigated a biomarker test which can be used in day-to-day clinical practice to assist diagnosis.

**MATERIAL AND METHODS:**
We evaluated 199 patients diagnosed with bipolar I, II, and unspecified disorders using the HCL-32 questionnaire and a cut-off point of 14 and above. Additional tools included history taking, CIDI 3 examination principles, relative interviews, and mood charts. We compared results with the general population and recurrent depression patients for sensitivity and specificity. We evaluated four mutations SLCO1C1, DiO1, and two DiO2 alleles as potential biomarkers.

**RESULTS:**
We found three mutations with up to 87% sensitivity and 46% specificity distinguishing bipolar disorders from recurrent depression. SLCO1C1 and DiO1 mutations showed up to 87% sensitivity and 60% specificity in detecting bipolar spectrum disorder compared to the general population.

**CONCLUSION:**
These biomarkers have the potential to be used as diagnostic tests for bipolar spectrum disorders, especially for subthreshold presentations, providing a non-subjective interpretation. Further studies confirming these results are needed to compare the validity of using individual or a best combination of single nucleotide polymorphisms to differentiate bipolar disorders from other mood disorders like major depression and recurrent depressive disorder.

**Keywords:** bipolar disorder, genetic testing, diagnosis

**P-052**

## Lifetime history of insomnia disorder associates with elevated peripheral C-reactive protein independently of lifetime history of depressive and anxiety disorders: Cross-sectional analysis of Cleveland Family Study

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**OBJECTIVE:**
Insomnia is highly comorbid with depressive or anxiety disorders, but its longitudinal course can vary from that of these conditions. Evidence suggests the pro-inflammatory effects of these conditions, but their independent effects are poorly understood.

**MATERIAL AND METHODS:**
Of 735 participants in the Cleveland Family Study, a U.S. cohort study, this analysis included adult participants who underwent both blood testing that determined the level of C-reactive protein (CRP) and in-laboratory polysomnography and provided information about lifetime physician diagnoses of insomnia (LI), depressive (LD), and anxiety disorders (LA). Those with autoimmune or inflammatory diseases or those taking steroids were excluded.

**RESULTS:**
Of 563 sample analyzed (55.6% women, mean age 47.9 years, 43.3% Caucasian), LI, LD, and LA were present in 5.0% (n=28), 18.9% (n=103), and 9.6% (n=54), respectively. A CRP level was significantly higher in those with LI and LD compared to those without LI and LD and in those with LI and LA compared to those without LI and LA. A multivariable regression analysis showed a positive association of LI with CRP (95% CI, 0.11-1.18), but no significant association of LD with CRP (95% CI, –0.09 to 0.55) or LA (–0.41 to 0.44). The significant association remained unchanged after adjusting for current health and sleep covariates including sleep apnea, sleep duration, and sleep stages (95% CI, 0.04-1.02).

**CONCLUSION:**
Results suggest an independent association of lifetime history of insomnia disorder with elevated peripheral inflammation. This finding highlights the importance of the assessment of insomnia in the treatment of depressive and anxiety disorders on a longitudinal basis.

**Keywords:** lifetime diagnosis, insomnia disorder, depressive disorder, anxiety disorder, C-reactive protein, inflammation

**P-053**

## Prolonged grief symptoms diminish neural activity during empathy for pain in others other than the deceased

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**OBJECTIVE:**
Losing a close person to death can result in prolonged grief disorder, which was newly recognized in DSM-5-TR, but its biological bases are largely unknown. Behavioral reactions to bereavement could involve the neural basis of empathy for pain, which is fundamental to the formation and maintenance of social bonding. We explored whether prolonged grief symptoms interact with social relatedness to a person to whom one directs empathy to modulate the expression of empathy.

**MATERIAL AND METHODS:**
Twenty-eight adult participants (mean age 49.5 years, 92.9% women) who had been bereaved over 12 months, were administered an empathy task during functional magnetic resonance imaging, in which they were subliminally primed with facial stimuli (e.g., a face of their deceased or living relative, or a stranger), each immediately followed by a visual pain stimulation.

**RESULTS:**
Individuals' grief severity inhibited the neural activity during empathy for the pain primed with the face of either their living relative or a stranger in the medial prefrontal cortex (e.g., dorsal anterior cingulate cortex), whereas it enhanced empathy for the pain primed with the deceased's face at the behavioral level. Further, preliminary analyses showed that the inhibition of neural empathic response was driven by the component of "avoidance," whereas the enhancement of behavioral empathic response was driven by the component of "yearning." These associations were independent of comorbid depressive and posttraumatic stress symptoms.

**CONCLUSION:**
Results suggest a link between prolonged grief reactions and empathy, in which grief symptoms interact with interpersonal factors to negatively affect the neural basis of empathy for pain.

**Keywords:** prolonged grief reaction, bereavement, empathy for pain, magnetic resonance imaging, dorsolateral anterior cingulate cortex

**P-054**

**Meta-analysis of variables related to digital phenotypes of bipolar disorder.**

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**OBJECTIVE:**
Digital phenotypes, defined as “moment-by-moment quantification of individual-level human phenotype in their environment, using data from personal digital devices” are a new approach aims at measuring human behavior. Digital phenotypes can theoretically improve clinicians' ability in early identification, diagnosis, and management of all mental health conditions, including bipolar disorder. Sleep, location-based data(physical activity, motor activity), HRV, smartphone use are known variables that distinguish bipolar disorder from the healthy control group. This study attempted to explore and confirm which of the digital phenotypic variables presented so far can best distinguish between two groups.

**MATERIAL AND METHODS:**
We searched four databases(PUBMED, MEDLINE, PsyARTICLES and EMBASE) for studies published between December 2002 and December 2022. The 65 papers that suggested bipolar disorder and digital treatment were selected as research subjects. Data were analyzed using the JAMOVI software. Variable were classified into four categories: sleep, location-based data(physical activity, motor activity), HRV, smartphone use.

**RESULTS:**
The effect size of the bipolar disorder and healthy control group difference was 0.248 (95% Cl: 0.030, 0.465). Variables with a high effect size were sleep, location-based data(physical activity, motor activity).

**CONCLUSION:**
The results of this study are significant in that the digital phenotype can potentially be a predictive marker for bipolar disorder and that it suggests a direction for future bipolar disorder digital phenotype studies.

**Keywords:** digital phenotype, bipolar disorder, sleep, motor activity, phone use, hrv

**P-055**

## Change of anxio-depressive symptom severity during intranasal esketamine treatment: a clinical case study

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**OBJECTIVE:**
Intranasal esketamine is a novel therapeutic approach in therapy resistant depression, which has been available in Hungary for 2 years. We present this case study to underline the importance of personalised post-administration observation. The summary of product characteristics requires only the monitoring of blood pressure and heart rate before and 40 minutes after the administration of esketamine, subsequently as clinically warranted; but since our patient had COPD, we decided to monitor blood oxygen saturation levels during the post-administration observation period. Additionally, we assessed how anxio-depressive symptom severity and hopelessness changed during the first 6 months.

**MATERIAL AND METHODS:**
Blood pressure, heart rate and blood oxygen saturation were measured in every 30 minutes before and after applying esketamine on every occasion (2x/week during the first 4 weeks, 1x/week subsequently). We recorded the level of state anxiety (Spielberger State Anxiety Inventory), the severity of depressive symptoms (Beck Depression Inventory), hopelessness (Beck Hopelessness Inventory) directly before and after sessions.

**RESULTS:**
Blood oxygen saturation decreased below 90 typically between 30-60 minutes after the administration of esketamine. Applying 2L/minute oxygen supplementation, the patient's vital parameters were stable. The patient reported significantly decreased anxio-depressive symptom severity and hopelessness after treatment sessions ($Z=-4667, p\leq0.001$; $Z=4.785, p\leq0.001$; $Z=-3.367, p\leq0.001$ respectively).

**CONCLUSION:**
In our clinical experience, personalizing esketamine treatment and post-administration observation might deserve consideration, including routine monitoring of other physiological and psychological parameters in the observational protocol depending on the patients' comorbidities especially at treatment initiation or dosage increase. The present case-study indicated significant positive changes of anxio-depressive symptoms right the patient's esketamine treatment sessions.

**Keywords:** personalized esketamine treatment, TRD, physiologycal symptoms, psychological symptoms

**P-056**

**The unitary psychosis concept revisited: towards continuum of functional and organic**

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**OBJECTIVE:**
To study the rationale behind "unitary" psychosis concept.

**MATERIAL AND METHODS:**
Conceptual analysis

**RESULTS:**
The “unitary psychosis” concept, or Einheitpsychose, is usually attributed to Wilhelm Griesinger, Ernst von Zeller, and Heinrich Neumann. It introduced the pre-Kraepeilinian understanding of psychosis as a continuum with multiple manifestations, or forms and stages, rather than as separate nosological categories. However, critically in that view neuropathological “brain dysfunction” was implicated as a mechanism of disease.This doctrine was inherited in 20th century psychopathology by Klaus Conrad, who delineated the difference between unitary endogenous and unitary exogenous psychoses, with the latter being identified with the disturbances of consciousness (orientation), following the intellectual trajectory and earlier contributions of Karl Bonhoeffer.
In Conrad’s perspective, affective disorders and schizophrenia constitute one and the same continuum, with different stages of evolution, many of them resembling mixed clinical states.
Later, Andrey Snezhnevsky produced a grading and staging model based on positive and negative symtoms, with high prognostic value and controversial blurred diagnostic values. At the same time, this model was underpinned with a substantial body of biological evidence, converging data from biochemistry, neurophysiology, pharmacology, immunology, etc.

**CONCLUSION:**
Currently the concept of unitary psychosis is revived by the discovery of shared mechanisms, pathways, and manifestations which determine organic and functional affective disorders, with relative nosological specificity.

**Keywords:** unitary psychosis; organic, functional, causal structure, conceptual history

**P-057**

## The development of tolerance and dependence on ketamine during long-term treatment of depression: a systematic review

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**OBJECTIVE:**
Over the last few decades, ketamine has proven to be an effective option for treatment-resistant depression (TRD). Given the ever more extensive use of this drug, it appears of great importance to investigate the possible development of addiction phenomena during long-term treatment.

**MATERIAL AND METHODS:**
MEDLINE, Embase, Global Health and PsycINFO will be searched; additional hand searches will be conducted.

String search: ("ketamine" OR "esketamine" OR "arketamine" OR "S-ketamine" OR "R-ketamine") AND ("depress*" OR "MDD") AND ("tolerance" OR "dependence" OR "tachyphylaxis" OR "withdraw" OR "withdrawal") in Title/Abstract.

Randomised controlled trials and naturalistic studies, in which repeated subanaesthetic doses of ketamine (racemic, esketamine, arketamine) were administered to adults with Major Depressive Disorder (MDD) or TRD via any route will be included, if they assess tolerance and/or dependence as an outcome. Any other adverse effects and significant changes in mood symptoms will also be assessed.
The main comparator will be active or inactive placebo control.
The data extracted will include the design methods of the studies, participants' details, intervention characteristics and the studies' outcomes.
Quality and risk of bias will be assessed using Cochrane risk-of-bias tool.

**RESULTS:**
We will provide a narrative synthesis of the results regarding the development of tolerance and/or withdrawal symptoms during long-term use of ketamine in depression. Where feasible, we may consider relevant subgroups of patients that might contribute to heterogeneity of results.

**CONCLUSION:**
Since this topic has not been specifically addressed in literature so far, this review aims to synthesise the available evidence to provide useful information for clinical practice.

**Keywords:** Ketamine, tolerance, dependence, depression

**P-058**

**Late-Onset Bipolar Disorder and Dementia: Exploring the Link**

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**OBJECTIVE:**
Provide a comprehensive overview of the clinical and epidemiological attributes specific to late-onset bipolar disorder (BD), elucidating its interplay with dementia.

**MATERIAL AND METHODS:**
We conducted a literature search on PubMed in August 2023, using the following terms: late-onset bipolar disorder AND dementia. Only systematic reviews and meta-analysis were included with no year or language restrictions. Three articles were eligible for this review: two systematic reviews and one meta-analysis.

**RESULTS:**
Late-onset BD can be defined as a secondary condition and may result from an expression of lower vulnerability to BD, when compared to early-onset BD. On the other hand, late-onset BD may be conceptualized as a subtype of pseudodementia, or even considered a risk factor for dementia. In fact, this particular association with dementia supports the existence of a specific class of BD, i.e. BD type VI. Such diagnostic overlap might be explained by common factors that have been associated with both BD and dementia, such as cardiovascular risk factors, systemic inflammation, stress and levels of baseline cognitive reserve. Despite the commonalities, other aspects, such as family history and prior history of a mood disorder, may help to make the differential diagnosis between late-onset BD and dementia.

**CONCLUSION:**
There is a diagnostic challenge between dementia and the neurocognitive decline associated with BD, particularly in the case of a late-onset BD. Although the available evidence is limited, current evidence demonstrates that BD can indeed be seen as a risk factor for dementia. Therefore, cognitive impairment in individuals with BD should not be overlooked.

**Keywords:** Bipolar disorder, Dementia, Cognitive decline, Geriatrics

**P-059**

**Psychological inflexibility and negative affect as factor of psychopathological vulnerability: comparisons between clinical and non-clinical adolescent samples.**

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**OBJECTIVE:**
Psychological inflexibility in coping with distress and negative affect have been identified as vulnerability factors of psychopathology. There is less evidence about the positive affect role and the differences between clinical and non-clinical adolescent populations. This study examines the differential role of psychological inflexibility and negative and positive affect on psychopathological vulnerability in adolescents from clinical and non-clinical settings.

**MATERIAL AND METHODS:**
A sample of 113 adolescents (*Mean age* = 15.95, *SD* = 1.27) from schools (n = 58) and mental health services (n = 55) of Barcelona completed the Avoidance and Fusion Questionnaire for Youth, the Positive and Negative Affect Schedule and the Symptom Assessment-45 Questionnaire. Multiple regression analysis using forward method was performed for each group.

**RESULTS:**
A first model revealed that psychopathology vulnerability was significantly explained by psychological inflexibility in both the clinical group (F(1,53) = 88.746, *p* = <.001, *r2* =.62) and the non-clinical group (F(1,56) = 86.397, *p* = <.001, *r2* =.60). The positive and negative affect were excluded from this model. A second model included psychological inflexibility and negative affect, significantly explaining the psychopathology vulnerability in both clinical (F(2,52) = 60.567, *p* = <.001, *r2* =.69) and non-clinical group (F(2,55) = 73.816, *p* = <.001, *r2* =.72).

**CONCLUSION:**
Psychological inflexibility and negative affect are associated with more psychopathological symptoms in clinical and non-clinical adolescent subgroups. Positive affect does not reduce the psychopathology vulnerability. Our findings point to psychological inflexibility and negative affect as potential therapeutic and prevention targets in mental health centers and schools.

**Keywords:** psychological inflexibility, negative affect, positive affect, psychopathology, adolescents

**P-060**

**Microbiota-brain axis and Perinatal Mood and Anxiety Disorders**

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**OBJECTIVE:**
Perinatal mood and anxiety disorders (PMADs) are common and have a significant impact on the well-being of mothers and their infants. The microbiota-brain axis has emerged as a novel avenue of research for understanding the etiology of these disorders and potential treatment strategies. We aim to provide an overview of the current understanding of the microbiota-brain axis in relation to PMADs.

**MATERIAL AND METHODS:**
Non-systematic literature research in the Pubmed and GoogleScholar databases, using the keywords “microbiome”, “postpartum depression”.

**RESULTS:**
The microbiota-brain axis modulates various central processes through the vagus nerve, as well as through production of microbial metabolites and immune mediators that trigger changes in neurotransmission and behavior. Research has been studying the associations between stress and diet on maternal gut microbiome composition, and the relationship between the microbiome and the immune system. During pregnancy, hormonal and immunological changes create a unique environment that can influence the gut microbiota. This perturbed environment could be related to altered stress response, neurotransmitter signaling, and immune system activation, all of which are implicated in the pathophysiology of PMADs.

**CONCLUSION:**
The exact mechanism by which the gut microbiota causes or alters neuropsychiatric disease states is not yet fully understood, and evidence-based treatments have not yet been developed, despite the recently acquired popularity of probiotics and prebiotics. Further studies are needed to elucidate the interactions between microbiota, neuroendocrine pathways and the immune system in the context of PMADs, as well as to explore the possibility of using probiotic bacteria as a viable therapy component.

**Keywords:** microbiota-brain axis, postpartum depression

**P-061**

**Could acetazolamide be used to aid the treatment of people with bipolar disorders?**

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**OBJECTIVE:**
Acetazolamide, a carbonic anhydrase inhibitor, has various indications. It has been highlighted for its potential to benefit people with bipolar disorders (BD), for whom there are clear current unmet treatment needs. This scoping review sought to synthesise all available evidence related to the potential effects of acetazolamide on symptoms related to BD, acceptability and tolerability, and intervention characteristics (e.g., dose and duration).

**MATERIAL AND METHODS:**
Following publication of the review protocol, the Pubmed, Embase, and PsycInfo databases were searched (all dated to 31 August 2022). A systematic approach was undertaken to identify eligible articles and extract relevant data from these.

**RESULTS:**
50 patients across 5 studies were treated with acetazolamide. Most were from two open-label trials; others were case reports. Approximately one third of patients were experiencing psychosis or mania before treatment initiation, and one third had refractory depression. 44% of patients were estimated to achieve a response (not seemingly affected by the baseline episode type, acetazolamide dose, or duration), while a further 22% experienced minimal benefits from the intervention. Acetazolamide was generally reported to be tolerated well and acceptable for up to 2 years, although reporting for acceptability and tolerability was suboptimal.

**CONCLUSION:**
The reviewed evidence is extremely limited in size and methodology (e.g., no randomised studies, blinding, or standardised outcome assessment). We posit that the current findings are sufficiently encouraging to recommend substantive clinical trials, but we emphasise that at present, the evidence is exceedingly preliminary, and there remains evident uncertainty as to whether acetazolamide could be a viable treatment for BD.

**Keywords:** acetazolamide, bipolar disorders, scoping review

**P-062**

**Cognitive Remediation in Bipolar (CRiB2): study protocol for a randomised controlled trial assessing efficacy and mechanisms of cognitive remediation therapy compared to treatment as usual.**

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**OBJECTIVE:**
A substantial proportion of people with bipolar disorder (BD) experience persistent cognitive difficulties associated with functional impairments. We recently provided initial evidence that cognitive remediation (CR) may benefit cognition and functioning in euthymic people with BD. This trial aims to determine 1) whether CR provides substantial and durable effects on cognitive and functional outcomes and 2) how CR exerts its effects.

**MATERIAL AND METHODS:**
CRiB2 is a two-arm, multi-site, randomised controlled trial (RCT) comparing CR to treatment-as-usual (TAU). Eligibility criteria include age 18-65, BD diagnosis, no neurological or current substance use disorder, and currently euthymic mood. 250 participants will be recruited through primary/secondary/tertiary care and the community. Participants are block randomised (1:1 ratio) to either TAU only or CR+TAU. The 12-week metacognitive CR programme (CIRCuiTS) comprises one-on-one therapist-led sessions and independent cognitive training, aiming at 30-40 hours in total. Outcomes are assessed at 13- and 25-weeks post-randomisation.

**RESULTS:**
Intention-to-treat analysis using mixed-effects models will estimate differences between groups in the primary outcome (Functional Assessment Short Test at week 25), and the secondary outcomes (which include measures of cognition, mood, self-defined goals, and quality of life). Salivatory cortisol levels, global cognition, metacognitive skills, and affect fluctuation will be evaluated as putative mechanisms of CR effects on cognition and functioning using mediation models.

**CONCLUSION:**
Findings will provide an appropriately powered evaluation of the efficacy and putative mechanisms of CR versus TAU for euthymic people with BD. This may contribute towards determining the clinical utility of CR for this population and its prospective implementation in clinical practice.

**Keywords:** Bipolar disorder, cognitive remediation, RCT, efficacy, mechanisms, trial protocol

**P-063**

## The relationship between cardiovascular autonomic nervous system and inflammation as transdiagnostic marker in patients with depressive symptoms

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**OBJECTIVE:**
The study aimed to characterize a population of patients with depressive symptoms based on the regulation of autonomic nervous system (ANS) and inflammation.

**MATERIAL AND METHODS:**
28 total patients with depressive symptoms, 18 with Major Depression and Bipolar Disorder (Hamilton Rating Scale for Depression, HAM-D: 26,25±6,18), and 10 with Binge Eating Disorder and Bulimia Nervosa (HAM-D:16,6±9,81), have been enrolled. Heart Rate Variability (HRV) was analyzed based on ECG and respiratory activity recorded 5 minutes in supine position by non-linear symbolic analysis. Plasma inflammatory biomarkers were assessed by ELISA test. Correlation analyses were performed to assess the relationship between inflammation and depressive symptomatology and inflammation and ANS balance. Principal Component Analysis (PCA) was used to assess whether a division into subgroups was possible for the identified variables (HRV and inflammation) and to test whether the grouping reflected the distribution by severity of depressive symptomatology.

**RESULTS:**
We found a significative direct correlation between an interelukine-1β (IL- 1β) levels and Beck Depression Inventory II (BDI-II) scores ($\rho$=.42; $p$<.05), as well as between pro-inflammatory markers and sympathetic activation ($\rho$=.41; $p$<.05) and reduced parasympathetic tone ($\rho$= -.57; $p$<.005). PCA revealed a cluster of 9 patients who, regardless of the diagnosis, showed higher HAM-D scores and worse values of inflammation and HRV.

**CONCLUSION:**
Biological variables were found to be discriminating in identifying severe cases of depressive symptoms,

upholding the importance of including them in clinical practice to move toward a more precise and personalised medicine, both in diagnosis and treatment.

**Keywords:** major depressive disorder, bulimia nervosa, binge eating disorder, inflammation, cytokines, autonomic nervous system

**P-064**

**Affective Disorders in Dorsopatias and Cervicalgias.**

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**OBJECTIVE:**
The urgency of the problem of dorsopathies is due to such factors as prevalence (about 45% of the population of developed countries) and high demand for medical help (the second most common after respiratory diseases). Dorsalgia as an integral symptom of dorsopathy,
characterized by etiological and prognostic heterogeneity, occurs throughout life in 70–90% of the population, annually in 15–25%, ranks third in the frequency of hospitalization and is the most common cause of prolonged temporary disability after 45 years

**MATERIAL AND METHODS:**
A cross-sectional (one-shot) study of 170 respondents was conducted. Of these, main group included 110 patients with CD, and comparison group included 50 patients with cervicalgia. The average age of respondents in the group with cervicalgia was 54.4±12.4 years; among them were 26% men and 74% women, which corresponded to a significant predominance of cervicalgia in females ($p < 0.0001$) and is comparable with literature data.

**RESULTS:**
The analysis of the quality of life demonstrated in patients with dorsopatia compared with respondents from the cervicalgia group a significant deprivation in physical ($p=0.0048$ and $p=0.0006$) and social functioning ($p=0.0014$ and $p<0.0001$, respectively). These results reflect the low degree of satisfaction of patients with affective disorders in social activities (self-service, communication with family and colleagues, performance of social and professional activities).

**CONCLUSION:**
In patients with CD, comorbid conditions were established, which are non-motor manifestations of the disease: pain syndrome, anxiety-depressive disorder, asthenia, dyssomnia, compared with patients with cervicalgia. Men with CD develop a more pronounced anxiety disorder ($p=0.0422$) compared to men from the cervicalgia group.

**Keywords:** Cervicalgia, Dorsopatia, Affective Disorders

**P-065**

## Psychopathological developmental trajectories from childhood to early adulthood, through adolescence, in Clinical and General population samples: preliminary results from clusters analysis

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**OBJECTIVE:**
Although several researches addressed longitudinal psychopathological trajectories, most of them focused on categorical diagnoses or general symptoms severity courses. On the other hand, this study aimed at identifying specific clusters of symptom trajectories in internalizing and externalizing areas and evaluating their different exposure to risk factors.

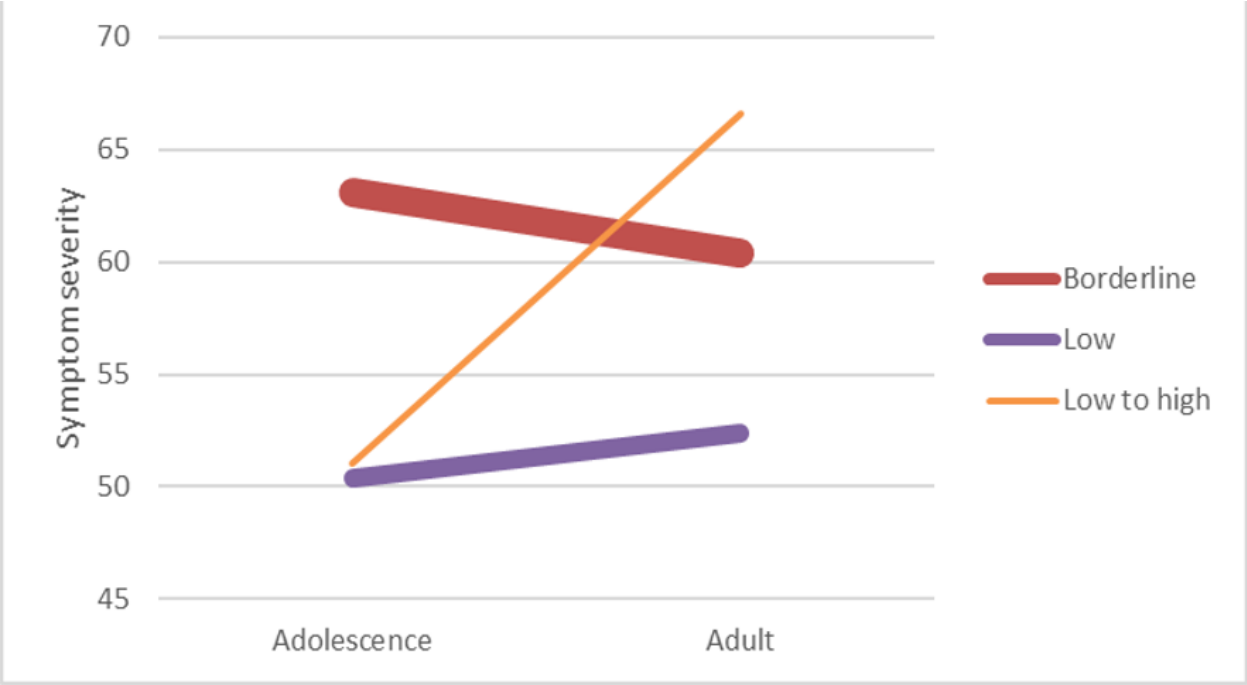
**MATERIAL AND METHODS:**
96 subjects (50% males) from general and help-seeking (46%) population were evaluated during childhood(T0, mean age 11±2), adolescence (T1, mean age 16±2), young adulthood (T2, mean age 26±4). A Multivariate Finite Mixture Model was estimated on psychopathological traits, measured through ASEBA questionnaires, considering T1 and T2 scores. Whether belonging to a cluster was associated with sociodemographic characteristics, environmental risks (i.e., perinatal complications and stressful life events), psychopathological symptoms measured at T0, was evaluated.

**RESULTS:**
Externalizing scores resulted in overall stability; internalizing showed homogeneous variations: Anxious-Depressed scale showed 3 independent clusters of subjects (i.e., “stable high”, “stable low”, “low-to-high”), Withdrawn-Depressed 2 clusters (i.e., “stable high”, “stable low”), Somatic 3 clusters (i.e.,b“stable high”, “stable low”, “high-to-low”). No sociodemographic or environmental variable was associated with clusters belonging, whilst the presence of T0 internalizing and externalizing problems was a predictor of belonging to “stable high” clusters.

**CONCLUSION:**
Our study suggested the presence of internalizing manifestations trajectories from adolescence to adulthood. Individuals belonging to stable high internalizing clusters presented higher emotional/behavioral dysregulation during preadolescence, with higher internalizing and externalizing problems. This suggests the importance of accounting for both homotypic and heterotypic continuity in psychopathological traits.

**Keywords:** psychopathological traits, heterotypic continuity, emotional/behavioral dysregulation, longitudinal

**Cluster analysis results**




*The image represents an example of the results of the cluster analyses, in particular, the best model for Anxious/depressed traits identified three clusters/trajectories: "Borderline" which comprehends individuals characterized by stable above mean T scores, "Low" which comprehends individuals characterized by stable below mean T scores, and "Low to high" with comprehends individuals characterized by a worsening of symptoms during adulthood*

**P-066**

## Clinical differences in primary depression and alcohol-induced depression. Preliminary clinical findings from BIODEP study.

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**OBJECTIVE:**
INTRODUCTION

For the approach of dual depression it is important to determine whether major depression (MDD) is primary (PD) or is induced by the substance of abuse (ID), both for its prognostic implications and for the therapeutic strategy to follow. The risk of relapse in substance use may be higher in patients diagnosed with ID than with PD, and there are indications of differences in response to antidepressant drugs according to the type of depression.

OBJECTIVES

Characterize differential clinical and neurobiological aspects in patients with comorbidity MDD to AUD. Characterize these aspects according to whether the depressive disorder is induced by substances or primary, using biomarkers of the endocannabinoid system and its temporal evolution in an 18-month follow-up.

**MATERIAL AND METHODS:**
Analytical, observational and longitudinal study at 6, 12 and 18 months.

Subjects of study: 54 subjects, over 18 years, of Caucasian origin and of both sexes. Patients will be recruited in outpatient follow-up or placement in one of the centers belonging to Hospital del Mar.

Group A: 18 subjects diagnosed with MDD without AUD
Group B: 18 subjects diagnosed with PD
Group C: 18 subjects diagnosed with ID

**RESULTS:**
In progress. Preliminary clinical results of the study will be presented. Sociodemographic data and psychiatric comorbidity will be presented. Similarities and differences between PD and ID will be

presented.

**CONCLUSION:**
The focus will be on researching new tools to approach differential diagnosis in dual depression.

**Keywords:** Substance use disorder, Major depressive disorder, Alcohol use disorder, Substance induced depressive disorder

**P-067**

**Trajectories of self-regulation in childhood and reward processing in adolescence.**

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**OBJECTIVE:**
Poor self-regulation and reward processing are key mechanisms involved in the development of several adverse outcomes, including mental health problems, academic failure, and risky behaviours; hence understating how self-regulation and reward processing are associated overtime at important developmental stages is crucial. However, most of the existing evidence exploring this association is cross-sectional and limited to adults and clinical samples of children.

**MATERIAL AND METHODS:**
We used longitudinal data from 13,240 participants in the Millennium Cohort Study, a UK nationally representative birth cohort study. Reward processing (affective decision-making) was measured at 11-14 years using the Cambridge Gambling Task, which produces decision-making outcomes including delay aversion, deliberation time, quality of decision-making, risk adjustment, and risk-taking. Self-regulation (emotional dysregulation, independence self-regulation) was assessed at 3-7 years with the Child Social Behaviour Questionnaire.

**RESULTS:**
Findings from latent growth curve models adjusted for confounding showed that high levels of emotional dysregulation led to more delay aversion and more risk-taking, and to less risk adjustment, at age 11. Moreover, increasing levels overtime of independence self-regulation predicted less deliberation time at age 11. However, there was no evidence of associations between self-regulation and reward processing at age 14. Similar results were found when excluding participants with a statement of special needs.

**CONCLUSION:**
Given that high emotional dysregulation and increasing independence self-regulation overtime in childhood represent a risk factor for poor reward processing in early adolescence, these findings suggest that intervening on self-regulation might, therefore, lead to an improvement in affective decision-making in the early teenage years.

**Keywords:** self-regulation; emotional dysregulation; reward processing; decision-making; executive functioning; youth.

**P-068**

**Relationship between striatal dopamine activity and social cognition in euthymic bipolar patients**

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**OBJECTIVE:**
Euthymic bipolar disorder (BD) patients exhibit social cognition deficits, including emotional recognition and Theory of Mind, causing significant psychosocial impairment. Deficits in emotion recognition, non-social cognition, and sensorimotor processing are also observed in conditions like Parkinson's disease and schizophrenia, associated with dopamine dysfunction. This study investigates the link between striatal dopaminergic function and social/non-social cognition in euthymic BD patients.

**MATERIAL AND METHODS:**
We included 50 healthy controls (HC) and 42 euthymic bipolar disorder (BD) patients. Emotion recognition (DANVA-2-TW), sensorimotor processing (joystick tracking task), non-social cognition (WCST, CPT), and striatal dopamine transporter (DAT) availability (SPECT with [99mTc] TRODAT-1) were assessed.

**RESULTS:**
Euthymic bipolar disorder (BD) patients showed significant deficits in emotion recognition, sensorimotor

processing, and non-social cognition compared to healthy controls (HC). Striatal dopamine transporter (DAT) availability was similar between BD and HC groups. In BD patients, worse emotion recognition was associated with poorer sensorimotor processing, non-social cognition, and lower striatal DAT availability. When potential confounders were considered through regression analysis, striatal DAT availability were still able to independently predict emotion recognition accuracy among euthymic BD patients.

**CONCLUSION:**
Although the implication of DA in emotion regulation seems clear, the mechanism by which DA system dysfunction contributes to social cognitive deficits remains to be investigated. Current results suggested striatal DA dysregulation and non-social cognition, namely executive function and attention, play relatively independent roles in social cognitive deficits of euthymic BD. Future studies with drug-naïve and longitudinal design is warranted to elucidate the complex contribution of the dopaminergic system to social cognition.

**Keywords:** dopamine transporter; euthymic bipolar disorder; social cognition

**P-069**

**The impact of early life stress on adulthood personality traits.**

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**OBJECTIVE:**
This study explores the potential impact of childhood experiences of emotional and physical abuse or neglect and sexual abuse on adulthood personality traits (Big-5). It is assumed that the frequency of abuse or neglect may influence adulthood's personality traits.

**MATERIAL AND METHODS:**
A questionnaire was used as a data collection tool, it included the Trait Self-Description Inventory (TSDI) Big-5 personality traits (Patrick et al., 2018) and Childhood Trauma Questionnaire (CTQ) (Bernstein et al., 2003). A total of 1,116 participants (18+ years old) took part in an online questionnaire (Males=21%, Females=79%). For data analysis, the frequency of abuse/neglect were classified into: Non/minimal, Low to moderate, Moderate to severe and Severe to Extreme. The total score of each of the five personality scores was computed.

**RESULTS:**
A relatively high number of participants indicated severe/extreme experiences of neglect or abuse (Physical abuse =13.6%; Emotional abuse=32.7%, Sexual abuse=14.7%, Emotional Neglect=28%, Physical neglect=16%). Analysis of Variance (ANOVA) was used to examine whether the five personality traits differ as a function of the neglect/abuse classification group (physical neglect/abuse, emotional neglect/abuse, and sexual abuse). Emotional neglect and abuse showed a significant impact on all personality traits ($p<0.05$).

**CONCLUSION:**
The type of abuse or neglect might influence personality differently in adulthood, both positively and negatively. Although those with severe/extreme experiences score higher on neuroticism and lower on extraversion, they also showed higher scores on consciousness and openness to experience.

**Keywords:** Early life stress, Childhood Trauma, Abuse, Neglect, Personality traits, Big-5.

**P-070**

## Relevance between age of onset and hospitalization characteristics of Major Depressive Disorders: a 16 years retrospective cohort study.

Yitan Yao[1], Qiongyao Yang[1], Yue Wang[1], Chuanchuan Chen[1], Wenhui Wang[1], Miaomiao Zhang[1], Yongjie Zhong[2], Xiaoping Yuan[2], Yueyue Zhang[3], Huanzhong Liu[1], Kai Zhang[1]
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[2]Anhui Psychiatric Center, Anhui Medical University, Hefei 238000, China
[3]Anhui Medical University, Hefei 238000, China

**OBJECTIVE:**
Age of onset influences the prognosis of many diseases and even serves as potential driver. But in Major Depressive Disorder, there is no consensus regarding the effect of age of onset on the course.

**MATERIAL AND METHODS:**
In this study, a total of 38,671 inpatients were surveyed over 16 years, and 6,113 inpatients were eventually included in the statistical analysis after applying rigorous data criteria.

**RESULTS:**
In the subset of first hospitalization(n=4884), the differences in the length of stay between several age of onset groups were statistically significant($F=56.852$, $df1=3$, $df2=4880$, $P<0.001$, $\omega2=0.033$). Similarly, this difference was also significant in the subset of relapse hospitalization(n=1229, $F=5.985$, $df1=3$, $df2=1225$, $P<0.001$, $\omega2=0.012$). The Bonferroni post hoc test suggested a longer length of stay in the adolescent onset group($P<0.001$). In the adolescent-onset group, the proportion with 2 or more relapses within one year was higher than those without relapses(6.7% Vs 2.7%, $X2=12.685$, $df=6$, $P < 0.001$). Logistic regression suggests that patients with adolescent onset are at higher risk for 2 or more relapses within one year($B=0.881$, $OR=2.41$, 95%CI 1.37-4.23, $P=0.002$).

**CONCLUSION:**
This is the first large sample size study to examine age at onset and risk of relapse at the individual level in a Chinese population. Our study found that adolescent onset is more susceptible to the chronicity of MDD. These findings will contribute to the accurate typing of MDD, as well as customized individualized prevention and treatment options.

**Keywords:** Major depressive disorder, age of onset, first episode, relapse episodes, adolescent depression, elderly depression.

**Figure 1**

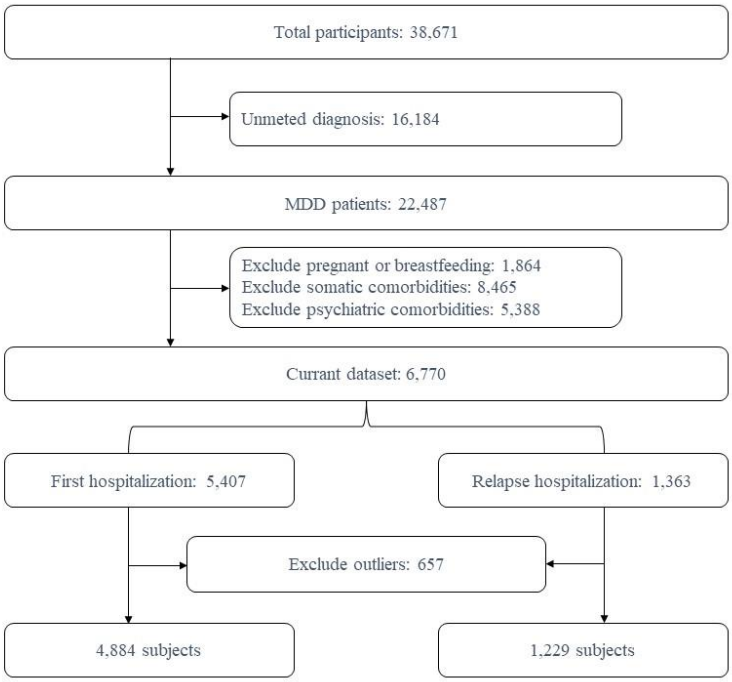
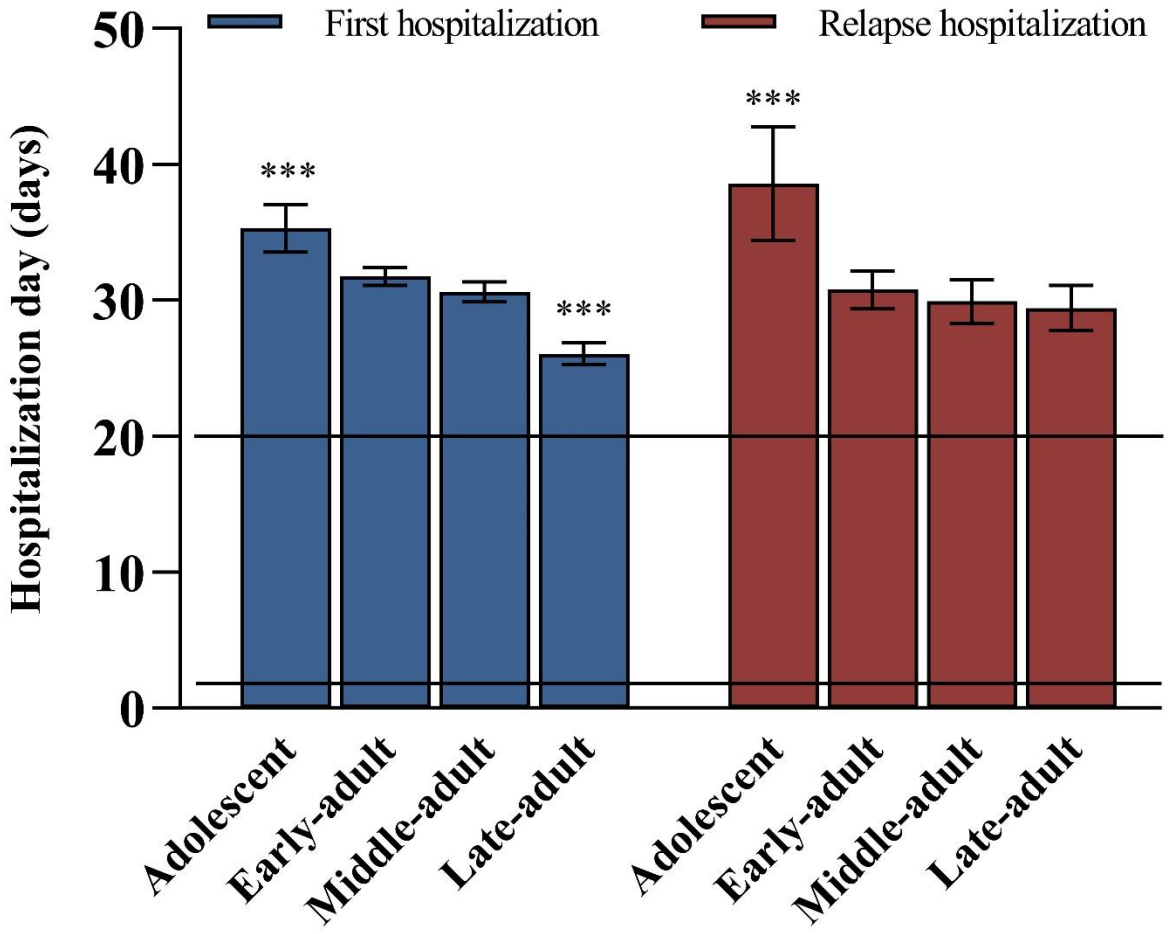

Total participants: 38,671
Unmeted diagnosis: 16,184
MDD patients: 22,487
Exclude pregnant or breastfeeding: 1,864
Exclude somatic comorbidities: 8,465
Exclude psychiatric comorbidities: 5,388
Currant dataset: 6,770
First hospitalization: 5,407
Relapse hospitalization: 1,363
Exclude outliers: 657
4,884 subjects
1,229 subjects

**Figure 2**


First hospitalization
Relapse hospitalization
Hospitalization day (days)
50
40
30
20
10
0
***
***
***
Adolescent
Early-adult
Middle-adult
Late-adult
Adolescent
Early-adult
Middle-adult
Late-adult

**P-071**

**Electroconvulsive Therapy: The Perspective of Patients and Their Family Members.**

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**OBJECTIVE:**
The objective of this study was to evaluate the perspectives of patients and their family members regarding electroconvulsive therapy (ECT) and its effects. Specifically, the study aimed to assess their satisfaction with ECT, perceptions of its effectiveness, and the association between their experiences with ECT and self-perceived health outcomes.

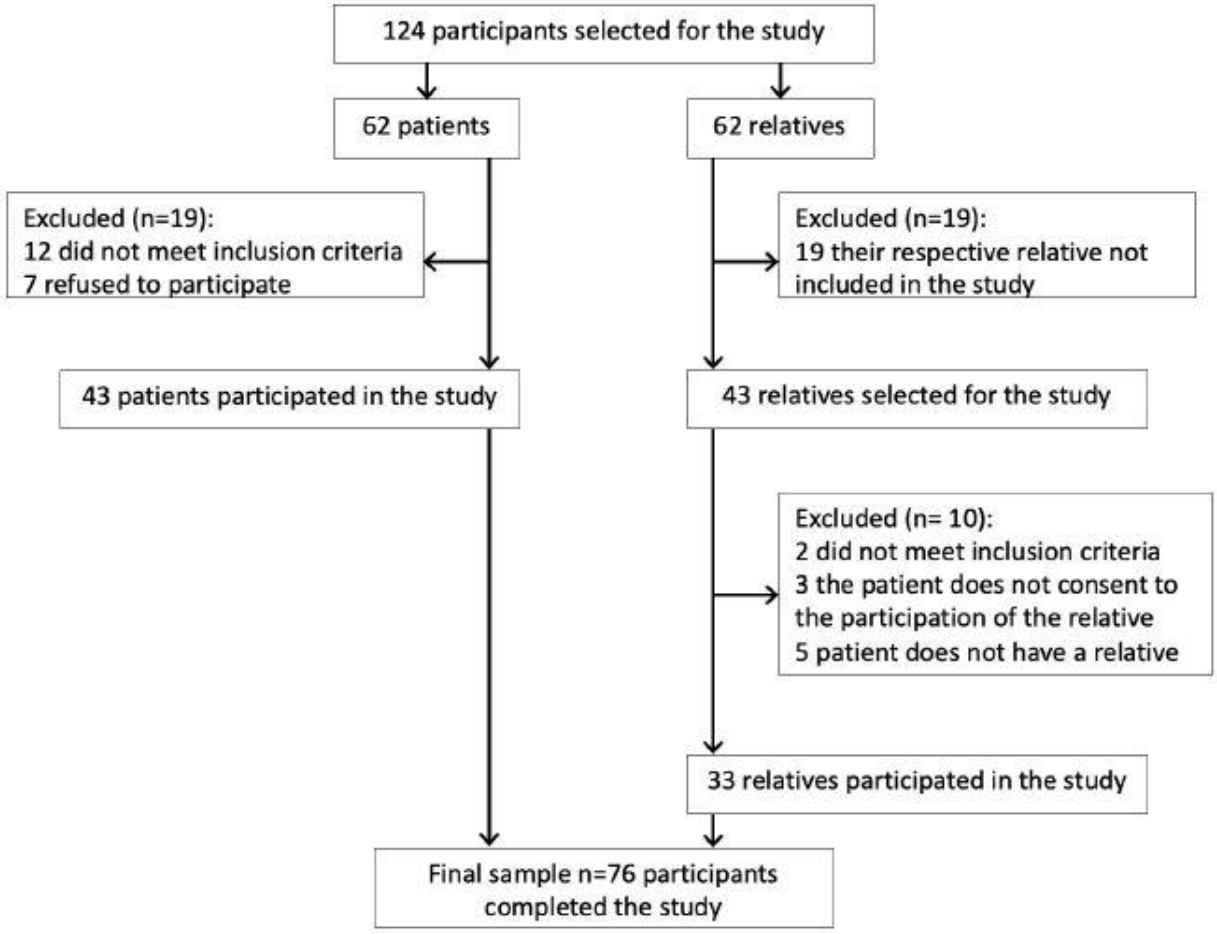
**MATERIAL AND METHODS:**
Data were collected from 43 patients who underwent ECT at Hospital del Mar, along with 33 of their respective relatives. A questionnaire was administered to assess their experiences and perceptions of ECT. The patients' self-perceived health status was measured using the EUROQOL self-assessment thermometer.

**RESULTS:**
The results revealed a generally positive evaluation of ECT among both patients and their relatives. Most patients expressed satisfaction with the treatment, considering it safe, effective, and painless. They reported improvements in their symptoms and expressed a willingness to undergo ECT again if necessary. Relatives also expressed satisfaction with the treatment and perceived it as effective. However, no significant association was found between relatives' satisfaction with ECT and the health status of their family members.

**CONCLUSION:**
This study showed a positive perception of ECT among patients and their relatives. The findings highlight the importance of providing adequate information about ECT and addressing stigma associated with the treatment. Further research with larger sample sizes and multi-center participation is needed to validate these findings and explore the long-term effects of ECT on patient outcomes and family dynamics.

**Keywords:** Psychiatry, Electroconvulsive therapy (ECT), Patient perspective, Family members, Stigma

**Flow Chart of Study Participants**



**P-072**

## Demystifying Hypnosis: Unravelling Facts, Exploring the Historical Roots of Myths, and Discerning What Is Hypnosis

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[2]School of Psychological Sciences, Macquarie University, Sydney, Australia
[3]Faculty of Health, Queensland University of Technology, Brisbane, Australia
[4]Department of Psychology, Goldsmiths University of London, London, United Kingdom
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**OBJECTIVE:**
Despite being a mind-body treatment with a long history dating back to early human civilisation, hypnosis still faces scepticism and misunderstanding. This narrative review aims to address the prevailing myths and misconceptions surrounding hypnosis, with the goal of promoting its adoption and acceptance in clinical and research settings.

**MATERIAL AND METHODS:**
This review traces the historical development of myths surrounding hypnosis and contrasts them with the evolution of hypnosis as an effective treatment modality. By comparing hypnosis to other interventions with similar procedures and features, this review aims to discern what is hypnosis and debunk misconceptions that have hindered its acceptance.

**RESULTS:**
This review presents compelling evidence supporting hypnosis as a valid and effective treatment modality, dispelling myths portraying it as a mystical or pseudoscientific practice. Furthermore, the review examines the distinguishing characteristics of hypnotic interventions and their overlap with non-hypnotic interventions, providing a deeper understanding of hypnotic techniques and phenomena.

**CONCLUSION:**
In conclusion, this review contributes to a better understanding of hypnosis in historical, clinical, and research contexts by debunking myths and misconceptions. By bridging the knowledge gaps and promoting evidence-based practice, this review aims to encourage the adoption of hypnosis in clinical and research settings. Additionally, it emphasises the need for further research to optimise multimodal therapies that incorporate hypnosis as a valuable component.

**Keywords:** Hypnosis, myths, misconceptions, facts, history

**P-073**

**Dynamics of Affect Modulation in Neurodevelopmental Disorders – DynaMoND**

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[2]Institut für Sport und Sportwissenschaft, Karlsruher Institut für Technologie (KIT), Karslruhe (Germany)
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**OBJECTIVE:**
Attention deficit/hyperactivity disorder (ADHD) is the most frequent neuro-developmental disorder, with high persistence into adulthood, where it is often comorbid with bipolar disorder (BipD) and borderline personality disorder (BPersD). Whether this is due to shared pathophysiological mechanisms is unclear. These three disorders are characterized by long- or short-term fluctuations in affective states. Whether they are distinct phenomena or rather ends of a spectrum is yet unclear. The aims of the European multicentre project 'DYNAMOND' are: (i) to characterize all components of a Modified DynAffect Model, (ii) to investigate the influence of stressor exposure and sleep on mood fluctuations, and (iii) to examine the contribution of polygenic risk factors for depression, ADHD, BipD, BPersD, neuroticism, and resilience therein.

**MATERIAL AND METHODS:**
This is a European multicentre study. We will examine high- and low-frequency mood changes with intensive ecological momentary assessment (EMA) in young patients (N= 360) suffering from either disorder, with respect to their pattern of affective dynamics and stressor exposure. We will also test whether polygenic risk scores (PRS) for Depression, ADHD, BipD, BPersD and resilience load onto critical parameters of the model.

**RESULTS:**
we hypothesize that the parameters attractor strength and variability differ between these three disorders.

**CONCLUSION:**
The results of this study will help in diagnostic assessment by validating an EMA platform, which could reduce misdiagnosis. Finally, the data might govern the perfect timing for therapeutic interventions as critical windows of mood fluctuation might be identified.

**Keywords:** affective states, experience sampling method, polygenic risk score

**P-074**

**Intermittent SSRI dosing as an effective treatment for Premenstrual Dysphoric Disorder**

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**OBJECTIVE:**
Premenstrual Dysphoric Disorder (PMDD) is characterized by affective and physical symptoms, at the beginning of the luteal phase, with significant impact on functionality. Despite typical first-line guidelines consisting of long-term Selective Serotonin Reuptake Inhibitor (SSRI) treatment, some concerns have been raised on antidepressant withdrawal syndrome and SSRI-related side effects in young women, which encouraged intermittent dosing of these medications. We intend to analyze evidence and understand how this mechanism could be explained.

**MATERIAL AND METHODS:**
Literature review of evidence regarding intermittent SSRI for PMDD.

**RESULTS:**
Studies show that there is a significant decrease in symptomatology rapidly after initiating an SSRI. This is not observed in patients with depressive/anxious disorders, without PMDD. The pathway that appears more well-founded is based on evidence that PMDD is associated with altered central nervous system sensitivity to neuroactive steroid hormones, namely allopregnanolone (ALLO), which interacts with neuron receptors like the GABA-A receptor. SSRI interfere with the synthesis of ALLO, acting not as a serotonergic agent but as a selective brain steroidogenic stimulant. This leads to patient improvement in hours to days, compared with weeks in other disorders. Literature shows no significant short-term withdrawal symptoms associated with this modality of dosing, and that the risk of long-term withdrawal syndrome is negligible.

**CONCLUSION:**
Intermittent use of SSRI in PMDD leads to similar clinical outcomes to continuous use. The mechanism behind is more related to hormonal pathways than neurotransmitter modulation. There seems to exist a better profile of the risk of withdrawal syndrome in intermittent dosing than continuous dosing.

**Keywords:** Premenstrual Dysphoric Disorder, Selective Serotonin Reuptake Inhibitors, Anxiety, Depression

**P-075**

## Exhaustion severity predicts later levels of depression and anxiety symptoms: A random intercept cross-lagged panel model study of exhaustion disorder

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**OBJECTIVE:**
Although the chronic stress-related condition exhaustion disorder (ED) is often comorbid with depression and anxiety, the relationship between them is unclear: some argue that ED is not distinct from depression and that anxiety may lead to ED. We therefore aimed to disentangle the longitudinal interactions between exhaustion, depression, and anxiety symptoms in ED.

**MATERIAL AND METHODS:**
The Shirom-Melamed Burnout Questionnaire, Patient Health Questionnaire, and Generalised Anxiety Disorder Assessment assessed ED, depression, and anxiety symptoms respectively at baseline, six months, and one year in subjects with ED (N=291). Data were analysed with random intercept cross-lagged panel models.

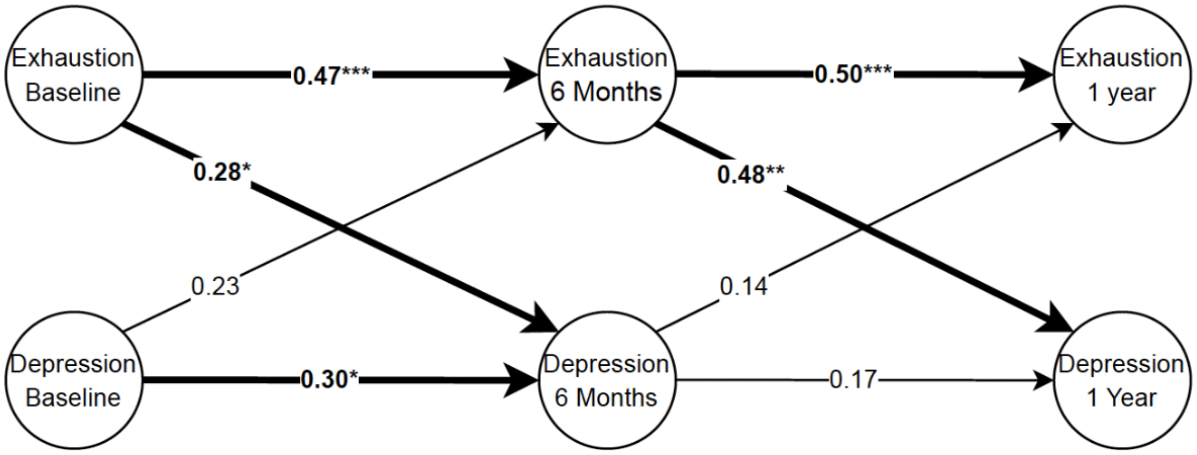
**RESULTS:**
Depression and anxiety had a time-invariant, trait-like component, while ED did not. Higher baseline ED levels predicted higher-than-expected depression and anxiety levels at six months, and higher six-month ED levels predicted higher-than-expected one-year depression (Figure 1) and anxiety (Figure 2) levels. Deviations from expected anxiety levels at baseline predicted six-month ED levels but with a relatively small effect.

**CONCLUSION:**
A high level of ED symptoms on a given occasion consistently predicts higher-than-expected depression and anxiety levels on subsequent occasions. Additionally, our results suggest that ED symptoms are not due to a stable, trait-like component, as opposed to depression and anxiety symptoms which have strong trait-like individual difference components. In sum, our results suggest that the ED symptom profile is distinct from depression and that the effect of anxiety on ED symptoms is relatively small compared to the effect of ED on anxiety. This study was funded by AFA Försäkring.

**Keywords:** exhaustion disorder, depression, anxiety, stress, structural equation modelling

**Figure 1 (Exhaustion-Depression)**

**Figure 1**

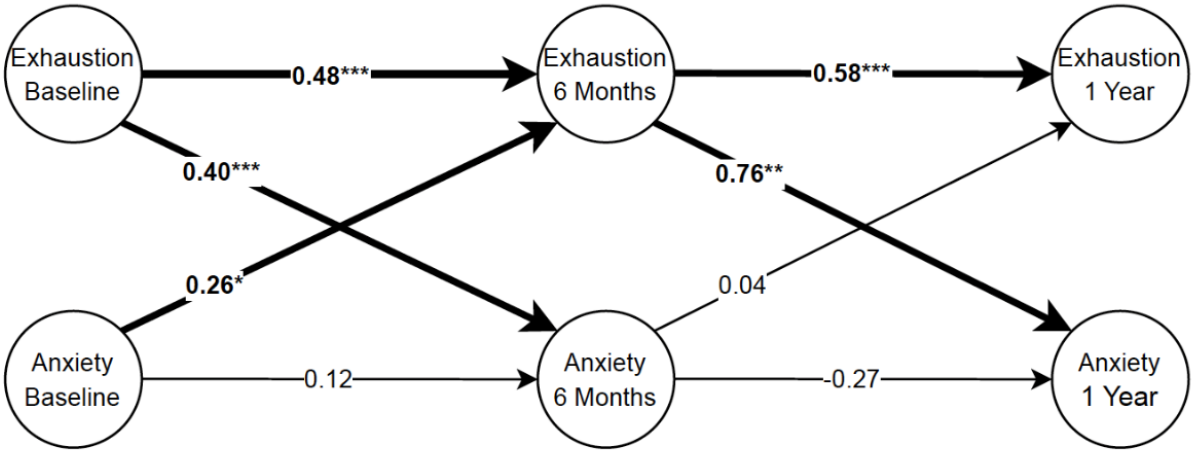



*Note*. Standardised autoregressive and cross-lagged parameter estimates obtained for the exhaustion-depression data with the random intercept cross-lagged model.
*** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$.

*A simplified random intercept cross-lagged panel model showing only the autoregressive and cross-lagged parameter estimates for the exhaustion-depression model.*

**Figure 2 (Exhaustion-Anxiety)**

**Figure 2.**




*Note*. Standardised autoregressive and cross-lagged parameter estimates obtained for the exhaustion-depression data with the random intercept cross-lagged model.
*** $p \leq .001$; ** $p \leq .01$; *** $p \leq .05$.

*A simplified random intercept cross-lagged panel model showing only the autoregressive and cross-lagged parameter estimates for the exhaustion-anxiety model.*

**P-076**

## Estimation of the impact on lost productivity costs in treatment-resistant depression patients treated with intranasal Esketamine

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**OBJECTIVE:**
The primary objective of the study was to estimate the indirect costs in terms of lost of productivity (days of temporary and permanent work disability) associated in patients with Treatment Resistant Depression (TRD), treated with Esketamine in real world conditions in Spain who return to work.
The second objective was to estimate the costs derived from the loss of productivity that these patients would have had if they had not returned to their usual work (estimated retirement age in Spain 65 years).

**MATERIAL AND METHODS:**
A retrospective, observational study was carried out. Data was collected from the electronic medical records and from the Spanish Statistical Office (INE) 2021. To estimate lost productivity costs due to temporary or permanent work disability, we used the methodology described in the EPICO study

**RESULTS:**
The study involved 20 TRD patients treated with Esketamine, Before treatment, only 1 patient (5%) was employed, while others were either retired, on temporary or permanent disability, or not actively working. After Esketamine treatment, 6 patients (30%) returned to work.
The estimated average cost of lost productivity due to temporary/permanent work disability for the patients in this study was 76,904.75€ per patient, totaling 384,523.75€.

**CONCLUSION:**
In conclusion, TRD has a considerable economic impact, especially in terms of lost occupational productivity.

**Keywords:** Treatment Resistant Depression, Esketamine, Costs

**P-077**

## Generalised worry in patients with chronic fatigue syndrome following cognitive behavioural therapy: A prospective cohort study in secondary care

Michail Kalfas[1], Abigail Smakowski[2], Colette Hirsch[3], Fabio Simiao[4], Trudie Chalder[1]
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[2]Persistent Physical Symptoms Clinical Research and Treatment Unit, South London and Maudsley NHS Foundation Trust
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[4]Neuropsychiatry Service, South London and Maudsley NHS Foundation Trust, Maudsley Hospital

**OBJECTIVE:**
Research has shown that generalised anxiety disorder is commonly associated with chronic fatigue syndrome (CFS). The present study aimed to investigate the prevalence of generalised worry in CFS patients and its relationship with fatigue and social functioning, before and after cognitive behavioural therapy (CBT) for CFS.

**MATERIAL AND METHODS:**
Our cohort consisted of 470 patients diagnosed with CFS who received CBT at a secondary care specialist clinic in the UK. Patients completed self-report measures investigating levels of generalised worry, fatigue, anxiety, work and social adjustment and depression at baseline, discharge from treatment, 3-month and 6-month follow-up. A cut-off score of ≥45 on the Penn State Worry Questionnaire was used to indicate generalised worry. Worry groups (mild, moderate, severe) were created using pragmatic severity bandings based on the clinical cut-offs for generalised worry (≥45 and ≥65).

**RESULTS:**
Analysis indicated that 72.4% of patients met the criteria for generalised worry at baseline. A significant reduction in worry was observed following CBT (M=−3.42, p<.001, 95% CIs:2.26, 4.57), which remained stable at 3 and 6 month follow-up. Severe baseline worriers had greater mean fatigue score (M=3.74, p=.026, 95% CIs:.33, 7.15) and worse overall work and social adjustment than mild worriers across time-points (M=5.42, p=.035 95% CIs:.27, 10.58). Avoidance behaviour mediated the association between generalised worry and work and social adjustment (95% bootstrap CIs:.013, 080).

**CONCLUSION:**
Generalised worry was highly prevalent in our sample, and was associated with greater fatigue, anxiety and worse work and social adjustment. Targeting generalised worry and avoidance behaviour may potentially improve treatment outcomes in CFS.

**Keywords:** Chronic fatigue syndrome, cognitive behavioural therapy, cohort study, generalised worry

**P-078**

**Effectiveness of Peer Support Intervention in Treating Prenatal Mental Health Difficulties in Women**

Anna Horakova, Antonin Sebela, Kristyna Hrdlickova, Hana Nemcova, Marie Kuklova, Pavel Knytl, Lenka Kostylkova
National Institute of Mental Health

**OBJECTIVE:**
Pregnant women with mental health difficulties are more likely to undergo less controversial nonpharmaceutical treatment during pregnancy, but structural and psychological barriers interfere with their capacity to seek professional help. Consequently, up to 75% of at-risk perinatal women do not receive treatment in Czechia. Therefore, we tested the efficacy of the telephone-based peer support intervention Mom's Supporting Mom in Czech pregnant women at risk.

**MATERIAL AND METHODS:**
The Edinburg Postnatal Depression scale (EPDS) was used to assess risk in pregnant women. Women at risk (EPDS $\geq$ 10) were randomized into two groups; the intervention group received the Mom's Supporting Mom peer support intervention. Women were compared in anxiety measured with the Perinatal Anxiety Screening Scale (PASS), depression measured with the Edinburg Postnatal Depression Scale (EPDS), and stress measured with the Prenatal Psychosocial Profile (PPP) after the intervention.

**RESULTS:**
Of the 2,247 women screened, 144 were included in the study and subsequently randomized into two groups (67 in the intervention group and 77 in the control group). Levels of anxiety ($U = 2016$, $P < 0.05$; Cliff´s delta= -0.218) and psychosocial stress ($U = 1862$, $P = 0.001$; Cliff´s delta = -0.317), but not depressive symptoms ($U = 2288.5$, $P = 0.243$; Cliff´s delta = -0.113) were significantly decreased in the intervention group compared with the control group.

**CONCLUSION:**
The telephone-based peer support intervention Mom's Supporting Mom may be effective in reducing stress and anxiety, but not depressive symptoms among high-risk women.

**Keywords:** Perinatal depression; Perinatal anxiety; Peer support; Pregnancy; Psychosocial stress

**P-079**

**The prominent role of state-dependent biomarkers of affective disorders**

Drozdstoy S Stoyanov
Medical University Plovdiv

**OBJECTIVE:**
Biomedical knowledge usually triangulates clinical diagnostic entities upon robust nomothetic networks of molecular, imaging and physiological alteration bio-markers. The state-independent or trait biomarkers refer mainly to predisposition or high risk, whereas state-dependent reflect current clinical condition. As a rule, neither clinical assessment nor the laboratory confirmation methods can constitute a sole diagnostic entity but only the incremental combination between the different measures.
The main objective of this presentation is to reconstruct the prominent contributions from task-related functional MRI studies and their clinical translation.

**MATERIAL AND METHODS:**
Our efforts were directed to establishing a model of incremental validation in psychiatry. According to this model, there are convergent and divergent validity operations, which may be tested across state-dependent clinical diagnostic self-assessment tests adapted to functional MRI tasks in real time. Convergent operations essentially mean that the scores on clinical assessments tools and brain activation as detected by the BOLD signal in the brain contribute to one and the same diagnostic pattern. When the two measures happen to be discrepant, this is regarded as divergent validity.

**RESULTS:**
This proof of concept has been delivered empirically with a depressive scale, paranoid-depressive scale, international affective pictures system and Stroop color and word test to explore the brain circuits or networks which underpin those tasks by means of group independent component analysis for FMRI toolbox and SPM in clinical samles as compared to healthy controls.

**CONCLUSION:**
There were identified neural network patterns of activation and deactivation, which correspond to real time performance on clinical state self-evaluation scales.

**Keywords:** task-related functional MRI, diagnostic assessment, validation

**P-080**

## Inflammatory biomarker and response to antidepressant treatment in depression: a systematic review and meta-analysis

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**OBJECTIVE:**
Inadequate response to antidepressant treatment, in a significant proportion of patients diagnosed with Major Depressive Disorder, contributes to the large burden of disability associated with the disease; thus, predicting treatment response is one of the most important challenge for clinicians who deal with depressed patients. The cytokine hypothesis of depression suggests that altered pheripheral cytokine levels are involved in the pathophysiology of depression and in modulating response to treatment. Present meta-analysis aimed to investigate the association between cytokine levels at baseline and response to antidepressant treatments.

**MATERIAL AND METHODS:**
Authors performed a systematic search of PubMed and Embase databases for studies published between 2010 and January 2021. Of 3345 identified records, 31 studies met the inclusion criteria for the qualitative synthesis, whereas 19 studies were eligible for quantitative analysis.

**RESULTS:**
Patients who failed to respond to antidepressant had aberrant inflammatory process, namely higher baseline levels of C-Reactive Protein and Interleukine-8, which is associated with treatment outcome in depression.

**CONCLUSION:**
Despite these promising results, further investigations are needed in order to replicate the data and to examine the potential role of inflammatory marker as a novel predictive tool for pharmacological treatment of depressive disorder.

**Keywords:** inflammatory biomarker; antidepressant treatment; depression; systematic review; meta-analysis

**P-081**

## A protective role of loss-related avoidance against vagal dysregulation among bereaved adults

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**OBJECTIVE:**
Grief reactions to the loss of a close person could be prolonged through altered approach-avoidance tendencies toward the loss. Whereas confronting the painful reality of the loss represents a challenge for physiological defense mechanisms, avoiding the loss could mitigate intense grief reactions and promote vagal control.

**MATERIAL AND METHODS:**
Eighteen adults (mean age 40.7 years, 83.3% women) who had been bereaved of a close person over 12 months participated in this study. Of these, 44.4% (n=8) were diagnosed with prolonged grief disorder (PGD). Violent or sudden loss was reported in 44.4% (n=8). We recorded participants' resting electrocardiographic data and extracted the high-frequency power (HF) and root mean square of successive differences (RMSSD) as cardiac vagal tone indices. We used factor analysis on the Inventory of Complicated Grief to identify the sub-factors of grief symptoms. We investigated the association of grief factors with cardiac vagal tone.

**RESULTS:**
Compared to participants without PGD, those with PGD had lower HF and RMSSD values. In the whole sample, whereas the first factor representing yearning for the deceased was negatively associated with HF (95% CI, –1.50 to –0.43), the third factor representing avoidance of loss reminder was positively associated with HF (95% CI, 0.04-1.10), independently of comorbid depressive and posttraumatic stress symptoms. The results of RMSSD did not substantially differ.

**CONCLUSION:**
Results suggest harmful and protective effects of different grief factors on vagal regulation and could explain why loss avoidance can be maintained in grief reactions. Clinicians need to balance the potential benefits and risks of reducing avoidance strategies.

**Keywords:** prolonged grief disorder, bereavement, loss-related avoidance, cardiac vagal tone, heart rate variability

**P-082**

## Predictive Ability of the Edinburgh Postnatal Depression Scale for the Presence of a Psychiatric Diagnosis at Six Weeks Postpartum

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**OBJECTIVE:**
The aim of this study is to assess the ability of the Edinburgh Postnatal Depression Scale (EPDS), administered shortly after delivery, to predict the presence of a diagnosis of depression and other mental disorders in women at six weeks postpartum.

**MATERIAL AND METHODS:**
An observational cohort study was conducted. Participants were women who had given birth in maternity hospitals in the Czech Republic and were at risk of postnatal depression (EPDS score ≥10). The EPDS was administered in the maternity ward after delivery. Six weeks postpartum, the women were administered the Mini-International Neuropsychiatric Interview (MINI).
The primary outcome was the presence of a major depressive episode and any mental disorder observed six weeks postpartum. The sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of the EPDS scores were calculated. ROC analysis and AUC determination were used to assess the predictive potential.

**RESULTS:**
438 women were included. Four percent had major depressive episode and 14 percent had any mental disorder six weeks after delivery. The EPDS score ≥16 for major depressive episode (AUC = 0.79, sensitivity 0.76, specificity 0.81, PPV 0.14, NPV 0.99) and the score ≥14 for any observed mental disorder (AUC = 0.67, sensitivity 0.63, specificity 0.70, PPV 0.26, NPV 0.92) were identified as optimal.

**CONCLUSION:**
The EPDS administered shortly after delivery is not a good predictor of major depressive episode and any mental disorder six weeks after delivery. The scores of ≥16 and ≥14, respectively, show acceptable AUC values, but the positive predictive values are unsatisfactory.

**Keywords:** postnatal depression, maternal health, perinatal mental health

**Figure 1. Flow diagram of participants**

Figure 1. Flow diagram of participants

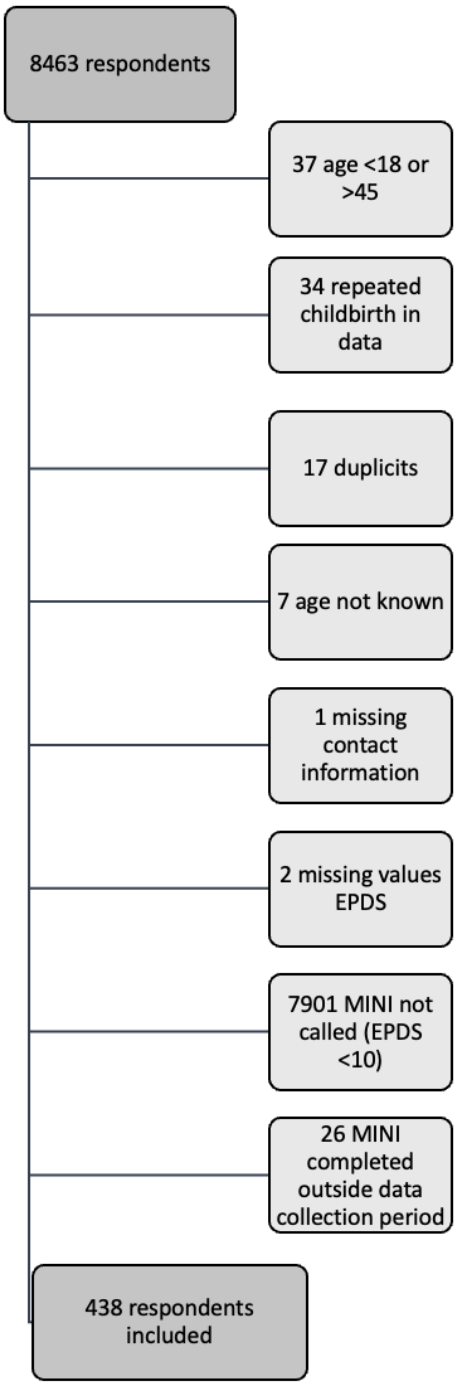
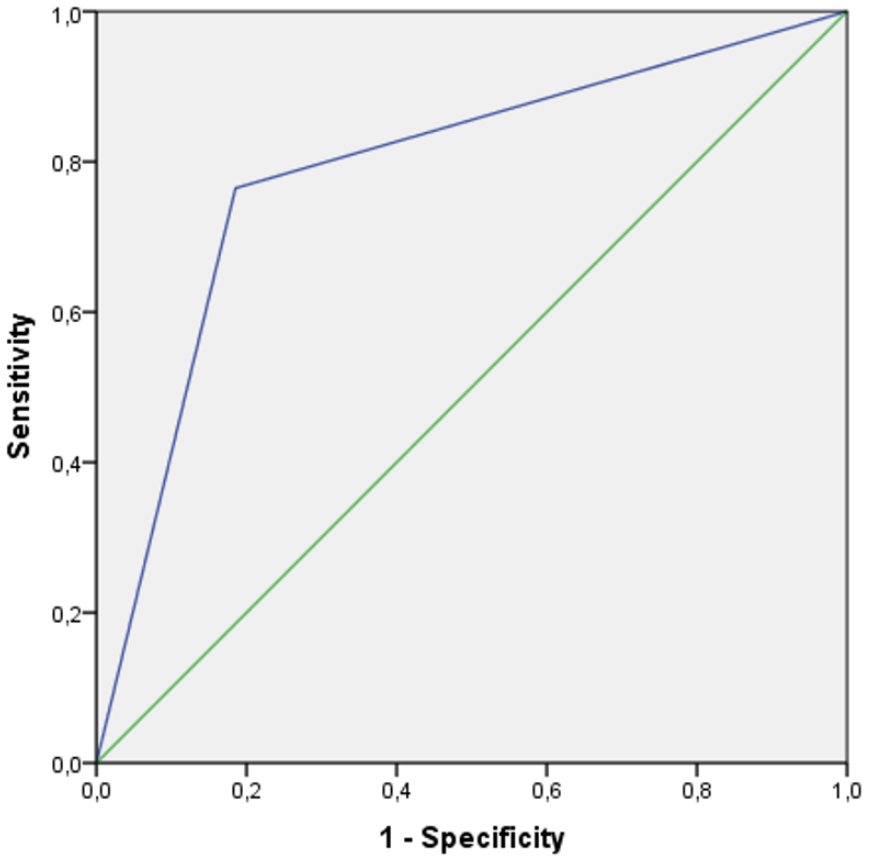


**Figure 2. ROC curve for EPDS score ≥ 16 validated against presence of major depressive episode**

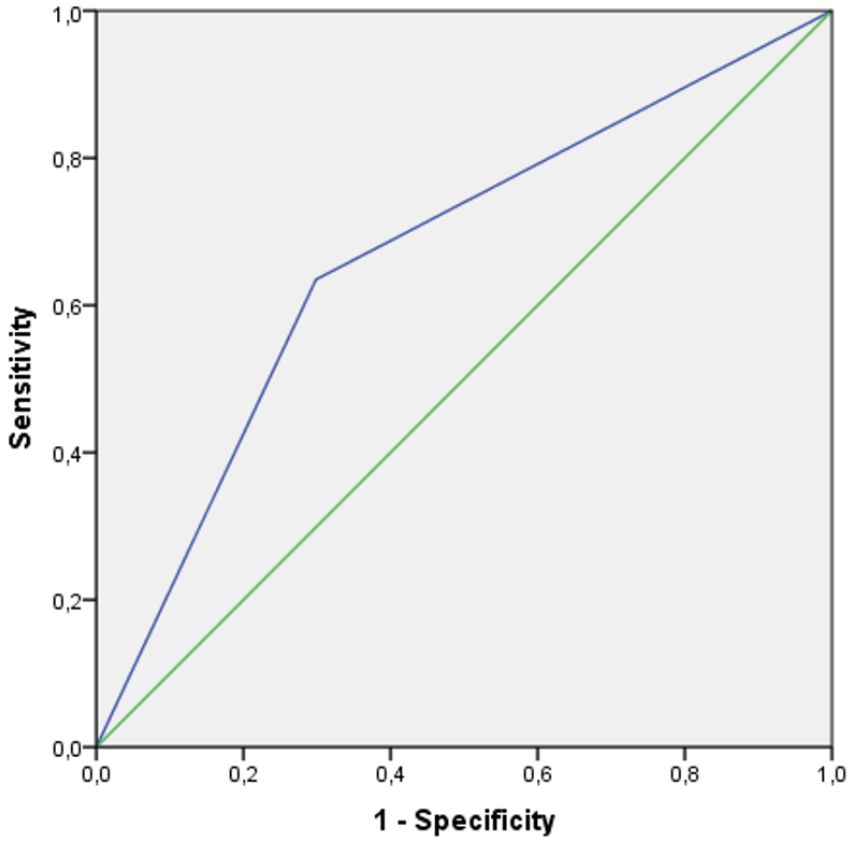
**Figure 2. ROC curve for EPDS score ≥ 16 validated against presence of major depressive episode***




**EPDS administered at two to five days postpartum. Diagnosis of major depression according to MINI administered six weeks postpartum.*

**Figure 3. ROC curve for EPDS score ≥ 14 validated against presence of any mental health diagnosis**

**Figure 3. ROC curve for EPDS score ≥ 14 validated against presence of any mental health diagnosis***




**EPDS administered at two to five days postpartum. Diagnosis of any observed mental disorder according to MINI administered six weeks postpartum.*

**Table 1. Demographic data**

## Table 1. Demographic data

| Age (years) | |
|---|---|
| Mean | 31.55 |
| SD | 4.68 |
| Median | 31 |
| IQR | 6 |
| Min | 18 |
| Max | 43 |
| **Term of delivery** | |
| Prematurity (%) | 3.42 |
| In term (%) | 66.89 |
| No data (%) | 29.68 |

**Table 2. Distribution of EPDS scores administered two to five days postpartum**

## Table 2. Distribution of EPDS scores administered two to five days postpartum

| EPDS score 2-5 days postpartum | |
|---|---|
| Mean | 13 |
| SD | 3 |
| Median | 13 |
| IQR | 4 |
| Min | 10 |
| Max | 25 |

**Table 3. Presence of diagnosis at six weeks postpartum**

## Table 3. Presence of diagnosis at six weeks postpartum*

| Diagnosis 6 weeks postpartum | Yes | No |
|---|---|---|
| Major depressive episode (%) | 3.88 | 96.12 |
| Any mental disorder (%) | 14.38 | 85.62 |

**According to MINI.*

**Table 4. Sensitivity, specificity, positive and negative predictive value, and area under curve value analysis for EPDS, validated against presence of major depressive episode**

**Table 4. Sensitivity, specificity, positive and negative predictive value, and area under curve value analysis for EPDS, validated against presence of major depressive episode***

| EPDS threshold score | Sensitivity | Specificity | PPV | NPV | AUC |
|---|---|---|---|---|---|
| 11 | 0.94 | 0.25 | 0.05 | 0.99 | 0.60 |
| 12 | 0.94 | 0.42 | 0.06 | 0.99 | 0.68 |
| 13 | 0.94 | 0.52 | 0.07 | 1.00 | 0.73 |
| 14 | 0.82 | 0.67 | 0.09 | 0.99 | 0.75 |
| 15 | 0.77 | 0.76 | 0.12 | 0.99 | 0.77 |
| 16 | 0.77 | 0.81 | 0.14 | 0.99 | 0.79 |
| 17 | 0.65 | 0.87 | 0.17 | 0.98 | 0.76 |
| 18 | 0.41 | 0.91 | 0.16 | 0.97 | 0.66 |
| 19 | 0.18 | 0.94 | 0.10 | 0.97 | 0.56 |
| 20 | 0.18 | 0.96 | 0.16 | 0.97 | 0.57 |
| 21 | 0.06 | 0.98 | 0.10 | 0.96 | 0.52 |
| 22 | 0.06 | 0.99 | 0.14 | 0.96 | 0.52 |
| 23 | 0.06 | 0.99 | 0.25 | 0.96 | 0.53 |
| 24 | 0.06 | 1.00 | 0.5 | 0.96 | 0.53 |
| 25 | 0.06 | 1.00 | 1.00 | 0.96 | 0.53 |

**EPDS administered at two to five days postpartum. Diagnosis of major depressive episode according to MINI administered at six weeks postpartum.*

*n = 438*
*PPV = Positive predictive value*
*NPV = Negative predictive value*
*AUC = Area under curve value*

**Table 5. Sensitivity, specificity, positive and negative predictive value, and area under curve value analysis for EPDS, validated against presence of any observed mental disorder**

**Table 5. Sensitivity, specificity, positive and negative predictive value, and area under curve value analysis for EPDS, validated against presence of any observed mental disorder***

| EPDS threshold score | Sensitivity | Specificity | PPV | NPV | AUC |
|---|---|---|---|---|---|
| 11 | 0.86 | 0.26 | 0.16 | 0.91 | 0.56 |
| 12 | 0.81 | 0.44 | 0.20 | 0.93 | 0.63 |
| 13 | 0.75 | 0.54 | 0.21 | 0.93 | 0.64 |
| 14 | 0.63 | 0.70 | 0.26 | 0.92 | 0.67 |
| 15 | 0.51 | 0.79 | 0.29 | 0.90 | 0.65 |
| 16 | 0.49 | 0.84 | 0.34 | 0.91 | 0.67 |
| 17 | 0.38 | 0.89 | 0.36 | 0.90 | 0.63 |
| 18 | 0.25 | 0.93 | 0.37 | 0.88 | 0.59 |
| 19 | 0.18 | 0.95 | 0.37 | 0.87 | 0.56 |
| 20 | 0.16 | 0.98 | 0.53 | 0.87 | 0.57 |
| 21 | 0.10 | 0.99 | 0.60 | 0.87 | 0.54 |
| 22 | 0.08 | 0.99 | 0.71 | 0.87 | 0.54 |
| 23 | 0.05 | 1.00 | 0.75 | 0.86 | 0.52 |
| 24 | 0.03 | 1.00 | 1.00 | 0.86 | 0.52 |
| 25 | 0.02 | 1.00 | 1.00 | 0.86 | 0.51 |

**EPDS administered at two to five days postpartum. Diagnosis of any observed mental disorder according to MINI administered at six weeks postpartum.*

*n = 438*
*PPV = Positive predictive value*
*NPV = Negative predictive value*
*AUC = Area under curve value*

**P-083**

## Are health locus of control and illness perceptions among individuals with bipolar disorder associated?

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**OBJECTIVE:**
Health locus of control and illness perceptions affect how individuals cope with their health and how they engage with their treatment. Three types of health loci of control can be differentiated: a) internal, b) powerful others-external, and c) chance-external. We explored whether these factors predict illness perceptions in individuals experiencing bipolar disorder (BD) after controlling for other potential factors such as residual symptoms or history of psychotic symptoms.

**MATERIAL AND METHODS:**
A secondary analysis was conducted looking at an adult treatment-seeking sample with BD (n = 76) by Meyer & Hautzinger (2012). The Disease Concept Scale (DCS; Linden et al., 1998) measured illness perceptions and the Locus of Control Related to Health and Illness (LCHI; Lohaus & Schmitt, 1989) assessed health locus of control.

**RESULTS:**
Findings showed that higher levels of "Powerful Others" LCHI predicted the illness perceptions of trust in medication, susceptibility to health problems, and idiosyncratic assumptions, which reflect personal beliefs for regarding medication as unhelpful. "Chance" LCHI predicted negative treatment (medication) expectations, guilt over symptoms, belief that chance is in control of whether symptoms emerge, and idiosyncratic assumptions. "Internal" LCHI predicted negative treatment expectations, guilt, and idiosyncratic assumptions. Finally, higher levels of manic symptoms predicted less trust in medication and more idiosyncratic assumptions, while depression predicted negative treatment expectations.

**CONCLUSION:**
Our analyses show that specific illness perceptions are associated not only with residual symptoms, but also with the locus of control dimensions. Therefore, it might be clinically relevant to assess health locus of control in individuals experiencing BD to adapt treatment strategies.

**Keywords:** Bipolar disorder; Illness perceptions; Health locus of control; clinical; adults

**P-084**

## Validity of the Brief Assessment of Cognition in Affective Disorders (BAC-A) Japanese version: preliminarily analysis of data from patients with mood disorders and healthy controls

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**OBJECTIVE:**
Cognitive impairment in patients with mood disorders (CIMD) is an important target for treatment, but its feasible measurement methods have not been established. The Brief Assessment of Cognition in Affective Disorders (BAC-A) subtests, the affective processing test and the emotional inhibition test, are specifically designed to evaluate affective-, or "hot" cognition in patients with mood disorders. In this study, we provide a preliminary result from an ongoing study to evaluate the validity of the BAC-A Japanese version.

**MATERIAL AND METHODS:**
Data were obtained from 21 patients with major depressive disorder (MDD), 19 patients with bipolar disorder (BPD) and 37 healthy control subjects (HCs). Cognitive assessments were conducted with the BAC-A and MATRICS Consensus Cognitive Battery (MCCB). In addition, mood symptoms were evaluated using the Hamilton depression scales (HAM-D) and the Young mania rating scale (YMRS).

**RESULTS:**
BAC-A "non-affective" subtest scores showed significant correlations with corresponding subscales of the MCCB ($p < .05$) in the entire patients (BPD+MDD). The combined patient group and HCs differed significantly in the emotional inhibition test ($p < .01$). Also, the difference in the performance on the affective processing test was marginally significant ($p < .10$) only in the domain of non-affective word memory. By contrast, the combined patient group and HCs did not show a significant difference in performance on the subtests of MCCB except the coding subtest.

**CONCLUSION:**
These results indicate the criterion-related validity of the BAC-A Japanese version for assessing CIMD. Our data also support the ability of the BAC-A to detect affective cognitive disturbances in patients with mood disorders.

**Keywords:** bipolar disorder, depression, cognition, affective cognition, BAC-A

**Table 1 demographic data**

Table 1 Demographic data

| | HC | MDD | BPD |
|---|---|---|---|
| male / female | 19 / 18 | 8 / 13 | 9 / 10 |
| age | 44.27 (10.40) | 39.29 (12.57) | 38.84 (11.43) |
| education | 14.63 (1.61) | 15.43 (1.80) | 13.42 (2.41) |
| HAM-D total | 1.22 (2.28) | 7.71 (5.50) | 5.79 (3.86) |
| YMRS total | 0.19 (0.74) | 0.29 (0.72) | 1.11 (1.82) |

Mean (*SD*).

HC: Healthy contorol, MDD: Major Depressive Disorder, BPD: Bipolar Disorder, HAM-D: Hamilton Depression Scale, YMRS: Young Mania Rating Scale.

**Table 2 correlation**

Table 2 Pearson correlation coefficient (*r*) between BAC-A subtest scores, established objective neuropsychological tests or mood symptoms in the combined patient group(BPD+MDD, *N*=40).

| | | the MCCB subtests | | | | | | | | | | mood symptoms | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TMT | SC | HVLT-R | SS | LNS | Maze task | BVMT-R | Category fluency | MSCEIT | CPT-IP | composite score | HAM-D | YMRS |
| "non-affective" subtests | Verbal memory | -.229 | .453** | .621** | .318* | .353* | .018 | .526** | .476** | .247 | .236 | .604** | -.225 | -.023 |
| | Token motor | -.387* | .379* | .345* | .183 | .306 | .231 | .259 | .441** | -.012 | .330* | .501** | .105 | .206 |
| | Digit sequencing | -.206 | .232 | .457** | .239 | .413** | .091 | .407** | .446** | .222 | .534** | .530** | -.003 | .104 |
| | Verbal fluency | -.334* | .419** | .496** | .164 | .407** | .067 | .281 | .883** | .225 | .417** | .664** | -.206 | .114 |
| | Symbol cording | -.591** | NA | .326* | .338* | .233 | .212 | .466** | .274 | .236 | .259 | .653** | .007 | .100 |
| | Tower of London | -.196 | .305 | .431** | .302 | .127 | .107 | .393* | .010 | .078 | .230 | .396* | -.305 | -.100 |
| APT: short-term recall | affective word free recall total | -.228 | .487** | .588** | .290 | .328* | .132 | .429** | .488** | .129 | .303 | .627** | -.185 | .170 |
| | non-affective word free recall total | -.171 | .339* | .569** | .450** | .286 | .025 | .483** | .530** | .116 | .016 | .519** | -.216 | -.047 |
| | affective word cued recall | -.146 | .343* | .363* | .214 | .161 | .086 | .455** | .346* | .095 | .186 | .439** | -.260 | -.011 |
| | non-affective word cued recall | -.135 | .338* | .419** | .256 | .178 | .030 | .592** | .438** | .142 | -.069 | .439** | -.201 | -.083 |
| APT: delayed recognition | affective word correct | .000 | .237 | .520** | .197 | .187 | .050 | .370* | .049 | .129 | .071 | .344* | -.205 | .053 |
| | non-affective word correct | -.127 | .357* | .511** | .262 | .229 | .103 | .481** | .299 | .107 | .173 | .469** | -.281 | .092 |
| | affective word false alarms | .086 | -.208 | -.180 | -.328* | .123 | -.074 | -.135 | .044 | -.093 | .027 | -.198 | .246 | -.074 |
| | non-affective word false alarms | .096 | -.189 | -.324* | -.338* | -.114 | -.09 | -.256 | .152 | -.093 | -.052 | -.250 | .220 | .013 |
| EIT | color only | -.543** | .534** | .168 | .152 | .095 | -.019 | .233 | .298 | .216 | .164 | .435** | .344* | -.015 |
| | non-affective color word | -.391* | .466** | .073 | .131 | .040 | .087 | -.019 | .165 | .225 | .174 | .303 | .366* | .041 |
| | affective color word | -.404* | .447** | .070 | .183 | .118 | .049 | -.049 | .054 | .153 | .204 | .258 | .287 | -.113 |
| | non-affective word reading | -.487** | .423** | .099 | .069 | .165 | .038 | .084 | .500** | .198 | .303 | .452** | .104 | .107 |
| | interference score | .058 | .002 | .002 | -.118 | -.168 | .073 | .065 | .219 | .133 | -.076 | .071 | .136 | .319* |

* $p < .05$, ** $p < .01$

APT: Affective processing test, EIT: Emotional inhibition test, TMT: Trail Making Test, SC: Symbol Cording, HVLT-R: Hopkins Verbal Learning Test-Revised, SS: Spatial Span, LNS: Letter Number Sequence, BVMT-R: Brief Visuospatial Memory Test-Revised, MSCEIT: Mayer-Salovey-Caruso Emotional Intelligence Test, CPT-IP: Continuous Performance Test-Identical Pairs, HAM-D: Hamilton Depression Scale, YMRS: Young Mania Rating Scale.

**Table 3 t-test BAC-A**

Table 3 Results of independent t-tests (two-tailed) for BAC-A subtest scores between HC (*N*=37) and the combined patient group(BPD+MDD, *N*=40).

| | | Mean (SD) HC / BPD+MDD | *t* | *df* | *p*-value |
|---|---|---|---|---|---|
| "non-affective" subtests | Verbal memory | 46.38 (9.06) / 45.68 (10.74) | 0.309 | 75 | 0.758 |
| | Token motor | 78.38 (9.83) / 69.40 (11.91) | 3.592 | 75 | 0.001 |
| | Digit sequencing | 20.62 (3.80) / 19.55 (4.07) | 1.192 | 75 | 0.237 |
| | Verbal fluency | 49.49 (9.47) / 46.18 (12.25) | 1.319 | 75 | 0.191 |
| | Symbol cording | 69.49 (11.63) / 61.35 (10.29) | 3.257 | 75 | 0.002 |
| | Tower of London | 18.11 (3.31) / 18.10 (1.96) | 0.013 | 75 | 0.989 |
| APT: short-term recall | affective word free recall total | 13.62 (4.11) / 13.73 (4.36) | -0.107 | 75 | 0.915 |
| | non-affective word free recall total | 16.92 (4.14) / 15.83 (4.03) | 1.175 | 75 | 0.244 |
| | affective word cued recall | 5.19 (1.78) / 5.08 (1.72) | 0.287 | 75 | 0.775 |
| | non-affective word cued recall | 7.05 (1.65) / 6.33 (1.93) | 1.777 | 75 | 0.080 |
| APT: delayed recognition | affective word correct | 8.97 (1.54) / 8.57 (1.53) | 1.137 | 75 | 0.259 |
| | non-affective word correct | 9.38 (0.79) / 9.15 (1.39) | 0.895 | 62.96 | 0.374 |
| | affective word false alarms | 0.41 (0.76) / 0.28 (0.60) | 0.838 | 75 | 0.405 |
| | non-affective word false alarms | 0.51 (1.02) / 0.60 (1.13) | -0.352 | 75 | 0.726 |
| EIT | color only | 51.24 (8.49) / 48.85 (8.48) | 1.231 | 74 | 0.222 |
| | non-affective color word | 48.54 (7.49) / 43.72 (7.92) | 2.724 | 74 | 0.008 |
| | affective color word | 49.78 (8.20) / 42.33 (8.24) | 3.951 | 74 | <0.001 |
| | non-affective word reading | 53.84 (9.28) / 52.18 (10.57) | 0.725 | 74 | 0.471 |
| | interference score | -1.24 (3.69) / 1.38 (3.93) | -3.000 | 74 | 0.004 |

APT: Affective processing test, EIT: Emotional inhibition test. EIT interference score: the value obtained by subtracting the affective color words score from the non-affective color word score.

**Table 4 t-test MCCB**

Table 4 Results of independent t-tests (two-tailed) for MCCB subtest scores between HC (*N*=37) and the combined patient group(BPD+MDD, *N*=40).

| | Mean (SD) HC / BPD+MDD | *t* | *df* | *p*-value |
|---|---|---|---|---|
| Trail Making Test | 23.70 (6.75) / 26.60 (10.14) | -1.464 | 75 | 0.147 |
| Symbol Cording | 69.49 (11.63) / 61.35 (10.29) | 3.257 | 75 | 0.002 |
| Hopkins Verbal Learning Test-Revised | 26.73 (5.23) / 26.78 (4.89) | -0.039 | 75 | 0.969 |
| Spatial Span | 18.32 (2.52) / 18.43 (2.57) | -0.173 | 75 | 0.863 |
| Letter Number Sequence | 13.14 (2.51) / 12.40 (2.31) | 1.340 | 75 | 0.184 |
| Maze task | 22.86 (3.33) / 21.65 (4.70) | 1.299 | 75 | 0.198 |
| Brief Visuospatial Memory Test-Revised | 27.59 (5.87) / 25.90 (6.97) | 1.149 | 75 | 0.254 |
| Category fluency | 21.95 (4.47) / 20.30 (6.57) | 1.294 | 69.02 | 0.200 |
| Mayer-Salovey-Caruso Emotional Intelligence Test | 106.85 (9.76) / 106.48 (7.94) | 0.184 | 72 | 0.855 |
| Continuous Performance Test-Identical Pairs | 3.03 (0.60) / 2.94 (0.60) | 0.690 | 74 | 0.492 |
| composite score | 50.03 (12.52) / 45.38 (12.36) | 1.592 | 71 | 0.116 |

**P-085**

**Suicidality in Bipolar Disorder: what about mixed states?**

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**OBJECTIVE:**
Bipolar Disorder (BD) is often burdened by suicide. It is debated if mixed states represent a heightened risk for suicide. The objective of this study is to identify whether mixed symptoms in BD are associated with more frequent suicidal ideation (SI) compared to pure depressive and hypo/manic symptoms.

**MATERIAL AND METHODS:**
903 outpatients with BD were followed longitudinally across 14,213 visits for 7 years. The scores of the IDS-C (depression scale) and the YMRS, administered monthly, were used to define mood states. SI was evaluated using the IDS-C SI item. The effects of depressive and hypo/manic symptoms and their interaction (mixed symptoms) on SI were modeled in generalized estimating equations.

**RESULTS:**
Depressive symptoms were the only symptoms significantly associated with SI when assessing the correlation using the continuous scores of the YMRS and IDS-C ($p < 0.0001$). When using symptom scale cut-offs as proxies for mood states, depressive symptoms were the main driver of SI in both mixed depression and mixed hypo/mania. However, all mixed states had greater likelihood of SI compared to pure depressive or hypo/manic symptoms. When overlapping items across each scale were removed, results were confirmed. Generally, gender did not impact risk of SI in mixed states.

**CONCLUSION:**
Depressive symptoms were associated with SI in BD, both in mixed depression and mixed hypo/mania.

Mixed states had a greater likelihood of SI.
**Keywords:** Bipolar Disorder, Mania, Depression, Mixed States, Suicidal Ideation.

**P-086**

## The development of Japanese version of the Screen for Cognitive Impairment in Psychiatry; Towards the feasible assessment of cognitive function in clinical settings

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**OBJECTIVE:**
Cognitive impairment of mood disorders (MD) is attracting interest as it influences functional outcome, e.g., social reintegration. The Screen for Cognitive Impairment in Psychiatry (SCIP) has been developed to briefly assess cognitive impairment in psychiatric conditions. In this study, we sought to validate the Japanese version of the SCIP with an internationally standardized cognition battery as an authentic measure.

**MATERIAL AND METHODS:**
Participants in this study consisted of patients with major depressive disorder (MDD; n=21) or bipolar disorder (BPD; n=19) in partial or full remission, as well as healthy volunteers as a control group (HC; n=37). Cognitive function was assessed with the Japanese version of the SCIP and the MATRICS Comprehensive Cognitive Battery (MCCB). Correlations were examined for scores on the SCIP, including those for its subtests, and those on the MCCB. We also compared performance on the SCIP between the patient group and HC group.

**RESULTS:**
Pearson's correlation coefficients indicated significant associations between the SCIP total score and MCCB composite score. Significant correlations were also found between all of the four domain scores from the SCIP and those on the corresponding cognitive domains from the MCCB. There was a trend level difference in the performance of the SCIP between HC group and MD group.

**CONCLUSION:**
The validity of the Japanese version of the SCIP was confirmed in MD. Further, this was one of the few studies to evaluate the usefulness of the SCIP with a comprehensive test battery of cognitive function. These observations may facilitate the assessment of cognitive function in clinical settings.

**Keywords:** Screen for Cognitive Impairment in Psychiatry, Cognitive Deficits, Neuropsychological Assessment, Cognitive Screening, Bipolar disorder, Depression

**Table 1 Demographic data**

Table 1 Demographic data

| | HC | MDD | BPD |
|---|---|---|---|
| male / female | 19 / 18 | 8 / 13 | 9 / 10 |
| age | 44.27 (10.40) | 39.29 (12.57) | 38.84 (11.43) |
| education | 14.63 (1.61) | 15.43 (1.80) | 13.42 (2.41) |
| HAM-D total | 1.22 (2.28) | 7.71 (5.50) | 5.79 (3.86) |
| YMRS total | 0.19 (0.74) | 0.29 (0.72) | 1.11 (1.82) |

Mean (*SD*).
HC: Healthy contorol, MDD: Major Depressive Disorder, BPD: Bipolar Disorder, HAM-D: Hamilton Depression Scale, YMRS: Young Mania Rating Scale.

**Table2 Pearson correlations between SCIP total scores, subtests and established objective neuropsychological tests.**

Table2 Pearson correlations between SCIP total scores, subtests and established objective neuropsychological tests.

| Tests | | *df* | *r* | p-Value |
|---|---|---|---|---|
| SCIP total | MCCB composite score | 73 | 0.744 | <0.01 |
| VLT-I | Hopkins Verbal Learning Test-Revised (HVLT-R) | 77 | 0.725 | <0.01 |
| WMT | Letter–Number Span (LNS) | 77 | 0.386 | <0.01 |
| VFT | Category Fluency: animal naming (Fluency) | 77 | 0.251 | <0.05 |
| VLT-D | Hopkins Verbal Learning Test-Revised (HVLT-R) | 77 | 0.697 | <0.01 |
| PST | Symbol Coding subtest (BACS-SC) | 77 | 0.645 | <0.01 |

SCIP total: sum of scores on the subtests, Abbreviations: VLT-I: Verbal Learning Test Immediate, WMT: Working Memory Test, VFT: Verbal Fluency Test, VLT-D: Verbal Learning Test Delayed, PST: Processing Speed Test Total.

**Table 3 Results of independent t-tests (two-tailed) for SCIP total scores and subtests between HCs (N=40) and MDs(BPD+MDD, N=40).**

Table 3 Results of independent t-tests (two-tailed) for SCIP total scores and subtests between HCs (N=40) and MDs(BPD+MDD, N=40).

| Test | Mean (SD) HC/MD | *t* | *df* | p-Value |
|---|---|---|---|---|
| SCIP total | 74.76(10.639)/72.15(13.036) | 0.957 | 75 | 0.342 |
| VLT-I | 22.65(4.191)/22.63(4.383) | 0.024 | 75 | 0.981 |
| WMT | 18.57(3.042)/17.13(4.109) | 1.76 | 71.655 | 0.083 |
| VFT | 14.95(4.339)/14.03(4.66) | 0.895 | 75 | 0.373 |
| VLT-D | 6.73(2.912)/6.65(2.931) | 0.12 | 75 | 0.905 |
| PST | 11.86(2.54)/11.73(2.698) | 0.234 | 75 | 0.816 |

SCIP total: sum of scores on the subtests, Abbreviations: VLT-I: Verbal Learning Test Immediate, WMT: Working Memory Test, VFT: Verbal Fluency Test, VLT-D: Verbal Learning Test Delayed, PST: Processing Speed Test Total.

**P-087**

**Suicide risk among residents and PhD students: A systematic review of the literature**

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**OBJECTIVE:**
The aims of this systematic review were to: (1) estimate the prevalence of suicide-related outcomes among residents and PhD students; (2) provide an overview of the variables studied in relation to suicide-related outcomes in this population.

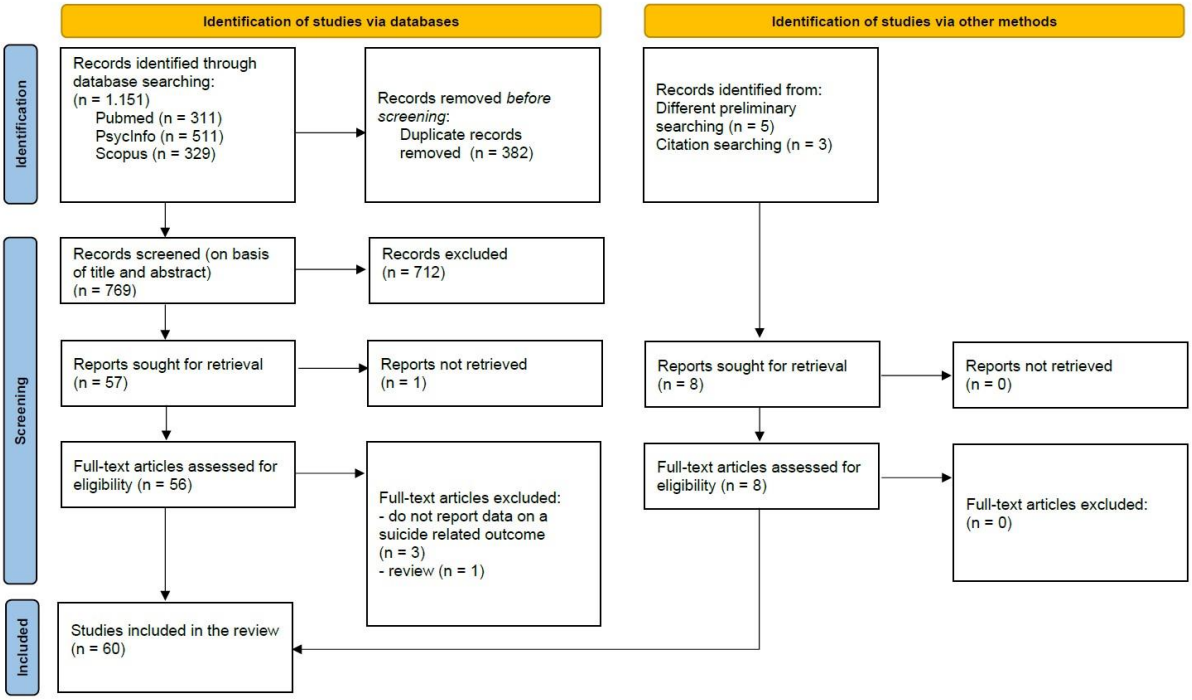
**MATERIAL AND METHODS:**
PubMed, PsycINFO, and Scopus databases were searched to identify articles published up to April 2023. Studies were included if they reported data on suicide-related outcomes among residents and PhD students.

**RESULTS:**
A total of 60 studies were included. The current prevalence of the following suicide-related outcomes was: death wishes (DW) 8.37%, suicidal ideation (SI) 6.39%, suicidal planning (SP) 1.51%, non-suicidal self-injury (NSSI) 2.97%, suicide attempts (SA) 0.43%. Additionally, the lifetime prevalence (L) was: suicidal ideation (L-SI) 28.14%, suicidal planning (L-SP) 5.22%, suicide attempts (L-SA) 2.84%. The most relevant variables related to suicide risk were depression, anxiety, burnout, feelings of hopelessness, and loneliness, as well as the quality of the relationship with the supervisor, and experiencing workplace discrimination and mistreatment.

**CONCLUSION:**
Residents and PhD students face similar risk factors as the general population, along with specific risk factors associated with their work environment and life stage. Therefore, it is important not only to improve interventions for individuals at risk in this population but also to proactively modify the work environment and promote a destigmatizing, inclusive, and supportive academic and professional culture to reduce suicide risk.

**Keywords:** suicide, mental health, residents, PhD students, postgraduate students

**Flowchart**


Identification of studies via databases
Identification of studies via other methods
Identification
Records identified through database searching: (n = 1.151) Pubmed (n = 311) PsycInfo (n = 511) Scopus (n = 329)
Records removed *before screening*: Duplicate records removed (n = 382)
Records identified from: Different preliminary searching (n = 5) Citation searching (n = 3)
Screening
Records screened (on basis of title and abstract) (n = 769)
Records excluded (n = 712)
Reports sought for retrieval (n = 57)
Reports not retrieved (n = 1)
Reports sought for retrieval (n = 8)
Reports not retrieved (n = 0)
Full-text articles assessed for eligibility (n = 56)
Full-text articles excluded: - do not report data on a suicide related outcome (n = 3) - review (n = 1)
Full-text articles assessed for eligibility (n = 8)
Full-text articles excluded: (n = 0)
Included
Studies included in the review (n = 60)

**P-088**

**It isn't just the drugs**

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**OBJECTIVE:**
To analyse and understand the combination of pharmacotherapy and psychotherapy for mood disorders. Ketamine offers a notable advantage as opposed to currently approved antidepressants.

**MATERIAL AND METHODS:**
This paper was built from a dream. A dream NG had after he was asked to write an abstract concerning his experiences shadowing the Maudsley Advanced Treatment Service (MATS) for Difficult to Treat Affective Disorders as a trainee Jungian Psychotherapist on a clinical placement.
We will explore through a Jungian lens what we see as a bridge connecting Psychiatry and Psychotherapy, where the concrete reality of a doctor (the conscious ego) and the Archetype of the healer (the unconscious Self) meet. We will examine how the powerful realities of the drugs in this clinic, Ketamine for treatment-resistant patients, are given a Psychodynamic platform by the Analytical Frame created internally and externally by the lead consultant psychiatrist of the clinic.

**RESULTS:**
The dream: "In a huge room, I was lost in a blind panic with a terrible question. How could I write a paper on the Analytic Frame when there is no Frame in Psychiatry? Now I'm lost in countless different rooms… Then I felt found in one when I realised that is the consultant psychiatrist is the Frame. The healer holds the patient within".

**CONCLUSION:**
We suggest in Jungian terms that the personality of the psychiatrist helps to create the Alchemical Vase - (The container) within the Frame. The doctor's personality contributes to the healing of our patients in as profound a way as the drugs psychiatry administers

**Keywords:** Ketamine, Psychotherapy, Psychodynamic platform, Analytical Psychology

**P-089**

**Effectiveness of Peer Support Intervention for Women with Postpartum Mental Health Difficulties**

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**OBJECTIVE:**
In the postpartum period, women are at risk of mental disorders onset and relapse which, if untreated, can have serious consequences for child development and the mother-child relationship. Given that 75 % of women at risk do not seek help, it is important that perinatal mental disorders are identified early and treated effectively. This study aimed to evaluate the effectiveness of the remote peer support intervention Mom Supports Mom as an appropriate form of care for at-risk postpartum women.

**MATERIAL AND METHODS:**
A randomized controlled trial was conducted with a sample of 488 Czech postpartum women with the Edinburgh Postpartum Depression Scale (EPDS) score ≥ 10. They were randomized into two groups; the intervention group received the Mom Supports Mom. Questionnaires on symptoms of depression (EPDS) and anxiety (Perinatal Anxiety Screening Scale; PASS) and Assessment of Quality of Life (AQoL-8D) were administered shortly after delivery and at 6 weeks postpartum. At 6 weeks postpartum, the Mini-International Neuropsychiatric Interview 5 (MINI) was administered as well.

**RESULTS:**
The intervention significantly decreased symptoms of depression (Cohen´s d =.30; 95% CI [.10,48]; p =.003) and anxiety (Cohen´s d =.29; 95% CI [.10,47]; p =.003) and increased the health-related quality of life (Cohen´s d =.27; 95% CI [.08,45]; p =.008) at 6 weeks postpartum. There was no significant difference between the groups in the presence of psychiatric diagnoses.

**CONCLUSION:**
Distant peer support may be effective in reducing symptoms of mental disorders and enhancing the quality of life in at-risk postpartum women.

**Keywords:** Peer support intervention, psychosocial intervention, postpartum, mental health

**P-090**

**Genetic Correlation Between Hypothyroidism / Hashimoto's Disease and Bipolar II Disorder**

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**OBJECTIVE:**
To evaluate the association between sex and thyroid dysfunction in patients with bipolar disorder (BD), and explore the genetic correlations between thyroid dysfunction and BD.

**MATERIAL AND METHODS:**
This study included participants enrolled in the Mayo Clinic BD Biobank with thyroid dysfunction recorded in a structured clinical questionnaire (CQ) [n=1,280;female=62%] and a subset with available electronic health records (EHR;n=835). CQ data and EHR-derived ICD-codes for hypothyroidism, hyperthyroidism, Hashimoto's disease (HD), and Graves' disease were retrieved. Multivariable logistic regressions were used to evaluate the association of sex with thyroid dysfunction while accounting for potential confounders. For all outcomes, effect of lithium and interaction between lithium and sex were explored. Using results (summary statistics) from genome-wide association studies (GWAS) for thyroid dysfunction and BD, we applied linkage-disequilibrium score regression to estimate genetic correlations between thyroid dysfunction and BD on sex-combined and sex-stratified cohorts.

**RESULTS:**
Female sex was significantly associated with hypothyroidism, both from CQ (OR=2.15,p=0.001) and ICD-codes (OR=2.36,p<0.001). Lithium use did not moderate this association. There was a significant genetic correlation between hypothyroidism and BD (rg:0.0998,p=0.0002), most notably BD type 2 (BDII; rg:0.1644,p=0.0007). HD showed a significant genetic correlation with BDII (rg:0.2334,p=0.0076). Correlations were not significant in BD sex-stratified GWAS cohorts with smaller sample sizes.

**CONCLUSION:**
Female sex is associated with hypothyroidism in patients with BD. These data suggest that hypothyroidism and Hashimoto's disease share partial genetic risk with BDII. Further analyses will be conducted to explore the complex associations between sex, polygenic risk for thyroid dysfunction, overall-BD and its subphenotypes.
**Keywords:** Bipolar Disorder, Thyroid Dysfunction, Hypothyroidism, Hashimoto's Disease, Genetic Correlation

**P-091**

## Between Mourning and Hope: A Mixed-Methods Study of Ambiguous Loss and Post Traumatic Stress Symptoms among Partners of Israeli Defense Force Veterans

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**OBJECTIVE:**
Spouses of military combatants often experience adverse outcomes, including Posttraumatic-Stress symptoms (PTSS) and emotional distress in terms of Ambiguous-Loss (AL). AL refers to an uncertain situation regarding a person's death or status, involving two types of loss: Ambiguous-Absence (AA), one is physically absent, but the psychological presence is maintained; Ambiguous-Presence (AP), one is physically present but emotionally absent. Though AL has been widely explored, there are still gaps around the AL-PTSD relationship, especially regarding dyadic variables that can moderate this relationship. Also, most of the AL military related studies are qualitative, with only a few that combine qualitative and quantitative research methods. We address these gaps in an innovating mixed-methods study, examining the emotional experience of Israeli veterans' spouses, focusing on the relationship between AL, PTSS, and Dyadic-Adjustment (DA).

**MATERIAL AND METHODS:**
The study population included 63 participants, all spouses of Israeli veterans. We used self-report questionnaires (AL, DAS and PCL-5) and a semi-structured narrative interview.

**RESULTS:**
Our results revealed positive AL-PTSS and AA-PTSS correlations. Also, an interaction effect was found in which the lower the DA level, the stronger the AA-PTSS correlation. Conversely, the higher the DA level, the stronger the AP-PTSS correlation. Additionally, qualitative findings identified themes, including uncertainty and ambivalence

**CONCLUSION:**
Our qualitative and quantitative results combined suggest that the way military couples deal with AL may be an important emotional experience requiring specific attention from mental health professionals.

**Keywords:** Ambiguous-Loss, Posttraumatic stress symptoms, Female spouses, Israel, Dyadic-Adjustment, Mixed-methods

**P-092**

## The Impact of Online Brain-Spotting Therapy on Brain Metabolism and PTSD Symptoms of Intimate Sexual Violence Victim: Single Case Study

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**OBJECTIVE:**
This study investigates the effectiveness of Brainspotting (BSP) as a therapy for post-traumatic stress disorder (PTSD) in individuals who have experienced sexual abuse by an intimate partner. BSP, a novel psychotherapy modality, shows promise in treating PTSD.

**MATERIAL AND METHODS:**
The study employs a combination of clinical assessments (HARS, HDRS, DASS, and PCL-5) and neuroimaging techniques (Proton Magnetic Resonance Spectroscopy or H-MRS) to examine the impact of online BSP on PTSD symptoms and brain metabolism, specifically the NAA/Cr ratio. Two female participants, one with PTSD and one healthy control, were included. The participant with PTSD underwent 15 BSP sessions in a single-subject, pre-post trial.

**RESULTS:**
Results indicate significant improvements in PTSD symptoms, supported by enhanced neural activity in several brain regions (Prefrontal cortex, medial prefrontal cortex, dorsal Anterior Cingulate Cortex, and Hippocampus) including the amygdala, as well as reductions in anxiety and depression levels based on psychological assessments. Follow-up sessions were conducted to assess long-term effects, which demonstrated sustained improvement in clinical symptoms.

**CONCLUSION:**
These findings provide preliminary evidence of the effectiveness of online BSP in alleviating PTSD symptoms. The study acknowledges limitations and offers recommendations for future research.

**Keywords:** Brainspotting, NAA/Cr, H-MRS, PTSD, Sexual-violence

**P-093**

**An exploratory assessment of deriving secondary features from EMA mood measures**

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[3]Island Health, Vancouver Island Health Authority (Nanaimo, Canada)

**OBJECTIVE:**
To assess the viability of using novel ecological momentary assessment (EMA) measures for data-driven detection of clinical depression in youth. Specifically, this work examines whether transformations applied to EMA mood measures can expose linear correlation between the resulting secondary features and PHQ9 scores.

**MATERIAL AND METHODS:**
This study uses existing EMA and PHQ9 data collected from youth with clinical depression. Participants logged eleven self-reported mood measures four times per day, daily, for two weeks as part of the EMA protocol. A total of 1210 secondary features were computed from the raw mood measures. To evaluate the secondary features, Pearson's correlation coefficient was computed between each feature/raw mood measure and the starting PHQ9 scores. Associated p-values were used to discard features that did not meet statistical significance requirements.

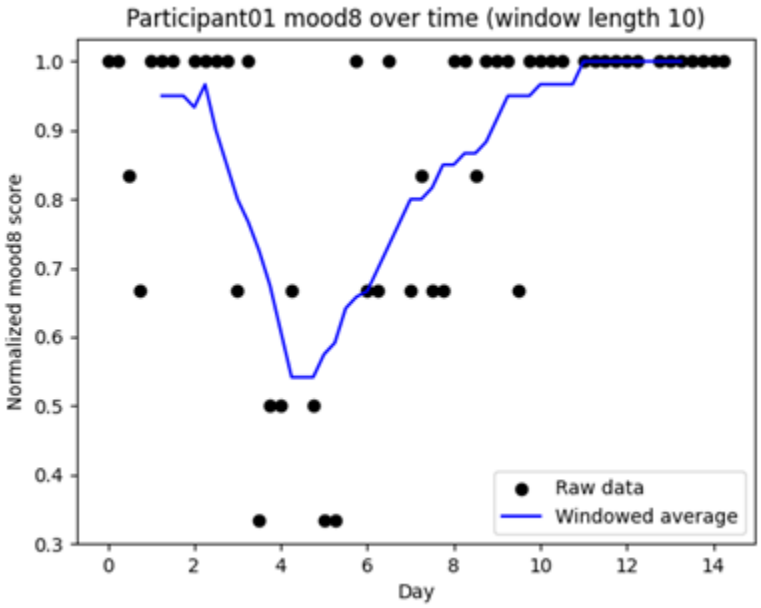
**RESULTS:**
The final feature set is shown in Table 1. Figure 1 shows one of the secondary features for a single participant. In summary, a subset of the secondary features offered novel measures that demonstrated higher Pearson's correlation coefficient (with respect to PHQ9 scores) compared to the raw mood measures. This suggests that the secondary features may linearize the mood measures with respect to the PHQ9 scores.

**CONCLUSION:**
The proposed secondary features could improve the accuracy of models developed from EMA to predict depression-related outcomes. In the long term, this would improve the clinical relevance of EMA. Future work should investigate the performance of predictive models constructed using these secondary features.

This study is funded by the Canadian Institutes of Health Research.

**Keywords:** clinical depression, ecological momentary assessment, feature extraction

**Figure 1**




*Data from a single participant, depicting a derived measure (windowed average, computed using a window length of 10) and the raw data for mood8.*

**Table 1**

| Mood measure | Derived Feature | Window Length (Samples) | Pearson's Correlation Coefficient | p-value |
|---|---|---|---|---|
| mood1 | Instantaneous Velocity | 28 | 0.708 | 0.001 |
| | Area Under the Curve | 2 | 0.558 | 0.016 |
| | Windowed Average | 2 | 0.528 | 0.024 |
| | Raw | - | 0.492 | 0.038 |
| mood2 | Area Under the Curve | 2 | 0.605 | 0.008 |
| | Windowed Average | 2 | 0.598 | 0.009 |
| | Raw | - | 0.596 | 0.009 |
| mood3 | Raw | - | 0.210 | 0.404 |
| mood4 | Raw | - | -0.228 | 0.363 |
| mood5 | Instantaneous Velocity | 10 | 0.601 | 0.008 |
| | Area Under the Curve | 28 | 0.545 | 0.019 |
| | Windowed Average | 5 | 0.491 | 0.039 |
| | Raw | - | 0.498 | 0.035 |
| mood6 | Raw | - | 0.004 | 0.987 |
| mood7 | Instantaneous Velocity | 7 | 0.711 | 0.001 |
| | Area Under the Curve | 2 | 0.566 | 0.014 |
| | Windowed Average | 2 | 0.560 | 0.016 |
| | Raw | - | 0.543 | 0.020 |
| mood8 | Instantaneous Velocity | 10 | -0.546 | 0.019 |
| | Area Under the Curve | - | -0.535 | 0.022 |
| | Windowed Average | 2 | -0.489 | 0.040 |
| | Raw | - | -0.487 | 0.040 |
| mood9 | Instantaneous Velocity | 24 | 0.632 | 0.005 |
| | Raw | - | 0.128 | 0.614 |
| mood10 | Raw | - | 0.092 | 0.718 |
| mood11 | Raw | - | 0.004 | 0.987 |

*Table 1: Pearson's correlation coefficients (and associated p-values) calculated between each derived feature and the PHQ9 score recorded at the start of the EMA. Rows representing the raw mood measure data are shaded blue. Rows representing secondary features are shaded yellow. Rows with p-value > 0.05 are shaded grey. Table 2 provides the PHQ9 questions associated with each mood measure.*

**Table 2**

| Mood measure | Question | Score 1 | Score 7 |
|---|---|---|---|
| mood1 | How happy versus sad do you feel right now? | Very cheerful / happy | Very sad / depressed / unhappy |
| mood2 | How much are you able to enjoy and feel pleasure in things? | Really enjoying things | No pleasure or enjoyment |
| mood3 | How relaxed versus anxious do you feel right now? | Very relaxed / calm | Very nervous / anxious |
| mood4 | How tired versus energetic do you feel right now? | Very tired / sluggish | Very lively / excited |
| mood5 | How well can you concentrate or focus right now? | Very focused / attentive | Very unfocused / distracted |
| mood6 | How irritable or easily angered do you feel right now? | Not at all irritable / angry | Very irritable / angry |
| mood7 | How quick is your thinking right now? | Very quick / lots of ideas | Slow / cannot think of things |
| mood8 | Since the last questionnaire did you have positive thoughts about nice experiences or things that make you feel good? | No positive thoughts at all | Many positive thoughts |
| mood9 | Since the last questionnaire did you have negative thoughts about unpleasant experiences or things that make you feel bad? | No negative thoughts | Many negative thoughts |
| mood10 | How fidgety or restless do you feel right now compared to your usual self? | Not at all restless or fidgety | Very restless / fidgety / cannot sit still |
| mood11 | How hungry do you feel right now? | Not at all hungry / I'm full | Extremely hungry |

*Mood measures and their associated PHQ9 questions.*

**P-094**

**Estimating cognitive impairment in bipolar disorder: should we account for premorbid IQ?**

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**OBJECTIVE:**
Estimating prevalence of cognitive impairment in people with bipolar disorder (BD) commonly relies on performance comparisons with normative data from healthy controls. However, not accounting for premorbid cognitive level may underestimate cognitive decline in patients with above-average premorbid performance. This study will estimate the extent of cognitive impairment in euthymic patients with BD accounting for premorbid IQ.

**MATERIAL AND METHODS:**
Cognitive performance across four domains was assessed in 80 participants. A global cognitive composite score was computed against population-based norms and then corrected for premorbid IQ (Test of Premorbid Functioning [TOPF]) by subtracting TOPF scores from composite scores. Percentage of cognitively impaired participants was estimated for both the normative composite and the IQ-adjusted composite using the same definition (impairment ≥1SD). Association with functional measures were assessed to evaluate the clinical relevance of these approaches.

**RESULTS:**
Using the normative composite, 13% of the sample were classified as impaired at the 1SD cut-off. Correcting this score for premorbid IQ significantly increased cognitive impairment rate to 36% ($\chi 2=5.63$, $p=0.02$). Both normative and IQ-adjusted cognitive performance were significantly correlated with the Functional Assessment Short Test ($r=-0.35$, $p<0.01$ vs. $r=-0.24$, $p=0.04$) and the UCSD Performance-Based Skills Assessment ($r=0.34$, $p<0.01$ vs. $r=0.23$, $p=0.04$).

**CONCLUSION:**
The proportion of BD patients with cognitive impairment might increase when accounting for premorbid IQ. Even objectively unimpaired patients may experience clinically relevant decline from their premorbid cognitive level. Correcting for premorbid IQ may have implications for screening in cognition trials and differential response to cognitive interventions.

**Keywords:** Bipolar disorder, cognitive impairment, premorbid IQ, functioning, cognition trials

**P-095**

## The Role of Bright Light Therapy in Enhancing Sleep Quality in Patients with Major Depressive Disorder

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**OBJECTIVE:**
Sleep disturbances are a key symptom of depression, and their persistence after symptomatic remission represents an important risk factor for recurrences, suicide, and abuse of hypnotic drugs. Alterations in sleep architecture in mood disorders are widely recognized, while the subjectively perceived sleep quality still receives limited attention. We conducted this study to evaluate the efficacy of bright light therapy (BLT) in improving both objective and subjective sleep quality in a sample of patients with Major Depressive Disorder.

**MATERIAL AND METHODS:**
100 depressed inpatients receiving stable antidepressant therapy, were randomly assigned (2:1) to one of two groups and underwent a four-week program: Group A received daily BLT augmentation, while Group B received pharmacotherapy alone. Depressive symptoms and sleep quality were assessed through clinical evaluation, sleep diaries, and multi-item questionnaires (HDRS and PSQI).

**RESULTS:**
Both Group A and Group B exhibited improvements in objective sleep quality; however, the improvement observed in Group A was statistically superior (HDRS-S, A vs B, T1, $p<0.001$, Mann-Whitney U test). Only Group A displayed a significant amelioration in subjective sleep quality (PSQI, A, T0 vs T1, $p<0.001$, Friedman test).

**CONCLUSION:**
The discrepancy between subjective perception and objective sleep quality remains an underestimated problem in clinical practice. This study highlighted how depressed patients experience poor subjective sleep quality even after overall symptomatic improvement. BLT appears to play a fundamental role in improving both objective and subjective sleep quality during a depressive episode and during remission.

**Keywords:** Mood Disorders, Depression, Sleep, BLT, light therapy

**P-096**

**A Scoping Review of Clinical hypnosis for Procedural Pain and Distress in Children**

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**OBJECTIVE:**
This scoping review aims to map the evidence of clinical hypnosis for paediatric procedural pain and distress across various medical settings while identifying knowledge gaps.

**MATERIAL AND METHODS:**
Published databases (PubMed, Cochrane Library, PsycINFO, Embase, CINAHL, Scopus, and Web of Science) and grey literature were searched before hand-searching reference lists and key journals (up to May 2022).

**RESULTS:**
A total of 38 studies involving 2,205 children were included after screening 4,775 articles. The review revealed several shortcomings, including the lack of fidelity measures and qualitative data, inadequate intervention reporting, and high attrition rates. Furthermore, evidence was limited regarding the safety of hypnosis, pain unpleasantness outcomes, factors influencing outcomes, and barriers and facilitators to implementing hypnosis and study procedures. Nevertheless, 76% of included studies reported the superiority of clinical hypnosis over control conditions and non-pharmacological interventions with moderate to large effect sizes. However, the diversity of interventions, contexts, study designs, and paediatric populations precluded evaluating the certainty of evidence.

**CONCLUSION:**
This review suggests potential benefits of clinical hypnosis for children's procedural pain and distress, prompting further systematic reviews and trials investigating its effectiveness. It also highlights the need to explore the feasibility, acceptability, implementation, and safety of clinical hypnosis in children undergoing painful procedures. Researchers implementing clinical hypnosis should adhere to recommended research guidelines, adequately report interventions, and assess intervention fidelity for better replicability and comparison. The review identified methodological shortcomings in studies, including lack of implementation frameworks, small sample sizes, inadequate reporting of standard care or control conditions, and limited evidence on pain unpleasantness outcomes.

**Keywords:** Scoping review, pain, distress, children, hypnosis

**P-097**

## Metabolic Syndrome in People Treated with Antipsychotics: a Multimethod Investigation of Genetic, Behavioural and Environmental Risk Factors (Riskmet)

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**OBJECTIVE:**
The RISKMET project aims to (1) identify Metabolic Syndrome (MetS) risk factors in individuals on second-generation antipsychotic medications (SGAs), (2) characterize SGA-treated patients with MetS, (3) and study behavioral patterns, including physical activity and diet, using a prospective cohort design.

**MATERIAL AND METHODS:**
The RISKMet project focuses on studying MetS in individuals treated with Second-Generation Antipsychotics (SGAs), particularly those with bipolar disorders. The project adopts a case-control design, matching participants based on sex and age and categorizing them as "Cases" (MetS+) or "Controls" (MetS-). Various risk factors related to MetS, lifestyle habits, familiarity and environmental variables will be evaluated. In a following step the two groups will be carefully assessed at two different time points, T0 and after 3 months: we will evaluate several body parameters (including a structured physical examination) and selected biomarkers, to assess the impact of SGAs on different organs and systems in MetS+ and MetS- individuals. This analysis will consider pharmacological treatment and genetic variability data. Additionally, the project will use a prospective cohort design to study behavioral markers such as lifestyle, eating behavior (using the Experience Sampling Method with real-time monitoring), physical activity measured with accelerometers, and mood.

**RESULTS:**
The study aims to improve our knowledge about physical correlates of SGA treatment, with the ultimate aim of developing preventive strategies for SGA-related comorbidities.

**CONCLUSION:**
This project will use intensive digital phenotyping, will identify biochemical markers, will assess familial risks, and will contribute to a safer use of SGAs.

**Keywords:** bipolar disorder, antipsychotics, quality of life, medical comorbidities

**P-098**

## A first-in-human, randomised, double-blind, placebo controlled study to investigate the safety, tolerability, pharmacokinetics and pharmacodynamics of oral ketamine in healthy volunteers.

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**OBJECTIVE:**
To investigate safety and tolerability of single oral doses of a novel immediate-release formulation of ketamine hydrochloride (KET-IR) in healthy adult men and women. And Assessment of Pharmacokinetic (PK) and Pharmacodynamic (PD) effects of KET-IR. It is intended that it is developed as a treatment for treatment-resistant depression (TRD).

**MATERIAL AND METHODS:**
18 healthy men and women aged 18-55 recruited, in 2 groups of 9. Subjects attended 3 treatment sessions according to a dose escalation plan. Group 1 received single doses of 40-120mg KET-IR, Group 2 received 160–240mg. Subjects were randomised to one of 6 treatment sequences (6 active, 3 placebo). Laboratory assessments, cardiac telemetry, vital signs and AEs recorded. Blood and urine samples for assay of ketamine were taken before and up to 24 hours after dosing. Bond and Lader VAS, CADSS, MOAA/S, Neuropsychological Testing and PSI tests were performed before the first dose and after each dose.

**RESULTS:**
Our results regarding safety and tolerability measures were collected, including: laboratory assessments, cardiac telemetry, physical examinations, C-SSRS, 12-lead ECG, vital signs, tolerability, and adverse events. PK: blood and urine samples for assay of ketamine and its major metabolites (norketamine and hydroxynorketamine). PK measures: Cmax, Cmax/Dose, tmax, AUC/Dose of ketamine and its metabolites. PD: clinician-administered scales for mood, dissociation, alertness, cognition, and psychotomimetic state. KET-IR was associated with a positive correlation with PK and a negative correlation with PD.

**CONCLUSION:**
These results will be used to guide dose selection in future studies with KET-IR to optimize its tolerability and efficacy in patients with TRD.

**Keywords:** Pharmacokinetics, Pharmacodynamics, Safety, Tolerability

**P-099**

## Baseline Depression Severity as Moderator on Depression Outcomes in Psychotherapy and Pharmacotherapy – A Meta-Analysis and Meta-Regression

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**OBJECTIVE:**
Evidence-based treatments for adult depression include psychotherapy and pharmacotherapy, yet little is known about how baseline depression severity moderates treatment outcome. Previous analytic evidence has been inconsistent and sometimes not based on all available studies on this topic. We aimed to compare the effects of psychotherapy and pharmacotherapy for adult depression and to examine the association between baseline depression severity and treatment outcome, converting multiple baseline depression measures into the scores of the Beck Depression Inventory, second edition (BDI-II).

**MATERIAL AND METHODS:**
We conducted systematic searches in bibliographical databases up to September 2022 to identify randomized controlled trials (RCTs) in which psychotherapy was compared with pharmacotherapy in the treatment of adult depression. Data was pooled as Hedges' g (at post-treatment) using a random-effects model. Various meta-regressions using the baseline depression severity as predictor of the relative effects of psychotherapy and pharmacotherapy were performed.

**RESULTS:**
We identified 65 RCTs including 7250 participants for the meta-analyses and 56 RCTs including 5548 participants for the meta-regression. We found no significant difference between psychotherapy and pharmacotherapy (g = -0.08, 95% CI: -0.2 to 0.04, p = 0.193) and baseline depression severity was not significantly associated with the relative effects of psychotherapy and pharmacotherapy (B = 0.0032, SE = 0.0096, p = 0.74). Results were similar in several sensitivity analyses.

**CONCLUSION:**
We found no indication for a moderation effect of baseline depression severity on the relative effects of psychotherapy and pharmacotherapy. Thus, other factors such as availability and patients' preference must be considered when deciding for treatment options.

**Keywords:** meta-analysis, meta-regression, depression, psychotherapy, pharmacotherapy, baseline severity

**P-100**

## A Double-blind, Randomized, Placebo-controlled plus Open Trial of Adjunctive Suvorexant for Treatment-resistant Insomnia in Patients with Bipolar Disorder

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**OBJECTIVE:**
Sleep pattern alteration is a core feature of bipolar disorder (BD), often challenging to treat and can impact clinical outcomes. Suvorexant, a hypnotic agent that decreases wakefulness, has shown promising results in treating primary insomnia. To date, data on its use in BD are lacking. This study evaluated the efficacy and tolerability of adjunctive suvorexant for treatment-resistant insomnia in BD patients.

**MATERIAL AND METHODS:**
36 BD outpatients (19 BDI, 69.4% female, 48.9 [± 15.2] years) were randomized for 1 week to double-blind suvorexant (10-20 mg/day) vs. placebo. All subjects completing the randomized phase were offered open suvorexant for three months. Subjective (sTST) and Objective Total Sleep Time (oTST), evaluated by actigraphy, were assessed.

**RESULTS:**
During the randomized-control phase (RCT), an overall increase in the oTST emerged, which was statistically significant for actigraph CK algorithm (p=0.035). The comparison between the suvorexant and the placebo groups was limited by significant differences between measurements at baseline (sTST and oTST). During the open phase, no significant improvement was detected in either sTST and oTST. No major intolerances were reported.

**CONCLUSION:**
Suvorexant was well tolerated. During the RCT phase a small increase in the oTST emerged, while, during the open phase no significant improvement was detected. This is the first study of suvorexant in BD-related insomnia, the limitation of the small sample and the high rate of drop-outs limits the generalizability of these findings. Larger studies are needed to assess suvorexant in treating BD-related insomnia.
**Keywords:** Orexin Receptor Antagonist, Bipolar Disorder, Treatment-resistent insomnia

**P-101**

## Psychological distress of women with high-risk pregnancy: Comparison between outpatients and inpatients

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**OBJECTIVE:**
Women with high-risk pregnancy reported a higher prevalence of anxiety, depression, and stress, than women with low-risk pregnancy. Moreover, literature showed that hospitalization constitutes an additional risk factor for mental health in women with high-risk pregnancy. Despite this, few research compared the mental health in outpatients and inpatients showing in inpatients higher stress, anxiety, and depression than outpatients. However, no study has been conducted in Italian context. Therefore, the aim of this study is to compare the level of distress, anxiety, and depression in two groups of high-risk pregnant women: a) outpatients and b) inpatients.

**MATERIAL AND METHODS:**
A cross-sectional study on high-risk pregnant women was conducted. Inclusion criteria were pregnancies 20–32 weeks and maternal age ≥ 18 years. The sample consisted of 142 participants with high risk-pregnancy divided in a) outpatients group (n=69; mean age=34.8; mean gestational week=24.2) and b) inpatients group (n=73; mean age=33.6; mean gestational week=25.9). Participants were recruited during routine obstetric visit for high-risk pregnancy (outpatients) or during the hospitalization for the high-risk pregnancy (inpatients) at Pisa University Hospital, Italy. Participants were invited to complete a self-reported questionnaire composed by: General Anxiety Disorder-7; Edinburgh Postnatal Depression Scale, Perinatal Stress Scale.

**RESULTS:**
T test showed higher level of perinatal stress ($p<.05$) general anxiety ($p<.01$) and perinatal depression ($p<.001$) in the inpatients group.

**CONCLUSION:**
Stress, anxiety, and depression scores significantly differ in inpatients than in outpatient women with high-risk pregnancy. Screening for stress, anxiety and depression prenatally may be beneficial especially for inpatients women with high-risk pregnancy.

**Keywords:** Anxiety, Depression, High-risk pregnancy, Hospitalization, Stress

**P-102**

**Inflammatory states in Bipolar Disorder - an inpatient analysis**

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**OBJECTIVE:**
Studies have consistently identified the link between Bipolar Disorder (BD) and systemic inflammation. Several pathways are hypothesized as responsible for this relationship but it is clear that there is a bidirectional interaction. Evidence shows that increased proinflammatory markers are associated with symptom exacerbation in BD patients, in either mood poles (manic or depressive). Our work intends to analyze an inpatient population of BD patients regarding peripheral inflammatory markers.

**MATERIAL AND METHODS:**
Retrospective analysis of inpatients of a Psychiatry unit between 2018 and 2022. Data related to admission analytic markers was collected - C Reactive Protein (CRP) and neutrophil/leukocyte ratio (NLR).

**RESULTS:**
A sample of 109 BD patients admitted was obtained. The majority of patients were female (67%). There was significant prevalence of inflammatory diseases, with 22.9% of patients with an established previous diagnosis. At admission, the average levels of CRP were 6.78 mg/L, with 49.3% of patients presenting with elevated levels of CRP (>3 mg/L) and 27.8% of these having moderate elevation of CRP levels (>10 mg/L). About 10% of patients presented with an NLR greater than 6, indicative of significant physiologic stress.

**CONCLUSION:**
The prevalence of immune mediated inflammatory diseases in the general population is about 5-7%. These entities are significantly more prevalent in populations of BD patients, which can be observed in our sample. Effectively, there seems to exist a pre-admission state of inflammation, as measured by serum markers, that has been regularly associated with disease decompensation, culminating in the admission to an acute inpatient ward.

**Keywords:** Bipolar Disorder, Inflammation, Peripheral Markers, C-Reactive Protein, Neutrophil/leukocyte ratio

**P-103**

## The Relationship Between Early Life Stress, Bipolar Disorder and HPA Axis Activity: A systematic review

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**OBJECTIVE:**
The development of Bipolar Disorder (BD) is a result of genetic, environmental, and physiological factors contributing to its aetiology. Early Life Stress (ELS) refers to various forms of abuse and neglect during childhood and has been linked to the development of psychiatric disorders, including BD. This review aims to assess how specific subtypes of ELS are associated with BD development and HPA axis activity.

**MATERIAL AND METHODS:**
Eleven primary studies published between 2013 and 2022 were included, and patients had to be diagnosed with BD and provide evidence of ELS exposure. The studies employed a combination of case-control and cross-sectional designs, evaluating the impact of specific ELS subtypes on BD occurrence and HPA axis function. The Childhood Trauma Questionnaire (CTQ) was commonly used to assess ELS, while diverse BD diagnostic criteria and HPA axis measures were employed.

**RESULTS:**
Results indicated a complex interplay between ELS subtypes, BD development, and HPA axis activity. Emotional and physical abuse emerged as significant contributors to BD onset, with studies revealing associations between these subtypes and different BD features. The studies demonstrated inconsistent effects of ELS on HPA axis function across various biomarkers and genetic analyses.

**CONCLUSION:**
This review highlights the need for further research to elucidate the intricate interactions between specific ELS subtypes, BD development, and HPA axis activity. An improved understanding of these relationships could enhance preventive and therapeutic approaches for individuals at risk of BD and related mood disorders. Limitations include variations in study designs, diagnostic criteria, and outcome measures, leading to heterogeneity in reported findings.

**Keywords:** early life stress, bipolar disorder, HPA-axis

**P-104**

**Perinatal relapse: a profile description of inpatient Moroccan women**

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**OBJECTIVE:**
Pregnancy is a critical and stressful phase for women, associated with a higher risk of mental illness occurrence and relapse(1).
One of seven women can experience mental illness during peripartum. Consequences on the mother and her infant can be detrimental(1).
The main aims of this study are to describe the clinical profile of mentally ill Moroccan women during peripartum and identify the risk factors for relapse.

**MATERIAL AND METHODS:**
Participants were recruited prospectively from June 2022 to April 2023; including all women hospitalized in the university psychiatric hospital of Ibn Rochd for a relapse during perinatal period. The study is still ongoing.
A form detailing socio-demographic status, risk factors, history of mental illness, clinical presentation, duration of hospital; was filled after interviewing the participants.
The results of the study were analyzed using SPSS software: descriptive variables were interpreted with means and medians.

**RESULTS:**
A total of 15 patients were included in the study, mean age was 29 years old [18-45], 53% had suicide attempts and 20% altruistic suicide attempts; 53% of the pregnancies were unwanted. Within the sample, 66% were diagnosed having schizophrenia, while 20% had bipolar disorder and 13% major depressive disorder.
Clinical presentation was dominated by disorganized thinking and behavior in 86% of cases, delirium 93% and hallucinations 66%.
Mean duration of hospital stay was 46 days, 40% of the women had low family support and been through important life stressors.

**CONCLUSION:**
Raising awareness among medical practitioners on perinatal mental illness will help provide a better medical care for these patients.

**Keywords:** Perinatal, peripartum, relapse, mental illness

**P-105**

**'Failure to regulate?' - Neural Correlates of emotion regulation in people recently attempting suicide.**

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**OBJECTIVE:**
Difficulty managing life stressors and regulating emotional states has been linked to suicidal behavior. Here, we investigated the neural underpinnings of emotion regulation of both positive and negative emotional states in patients with a recent suicide attempt (past 6 months; PSA;n=22) compared to patients without a suicide attempt (PC;n=23) and healthy controls (HC;n=24).

**MATERIAL AND METHODS:**
Participants completed the emotion regulation questionnaire and an emotion regulation task during multi-echo functional Magnetic Resonance Imaging (fMRI). Participants were instructed to either passively attend or actively regulate (using cognitive reappraisal) valenced pictures (neutral, negative, positive). Contrast images reflecting the difference between brain activity during attending vs. regulating negative or positive pictures were compared between groups.

**RESULTS:**
PSA used more suppression than PC and HC, and less reappraisal when regulating emotions in daily life than HC. Imaging results showed smaller activation differences between regulating vs. attending negative pictures for PC and PSA compared to HC. Involved areas were the dorsolateral prefrontal cortex, anterior cingulate cortex, and thalamus (PSA only) ($p<.05$ FWE-corrected).

**CONCLUSION:**
We found abnormal involvement of cognitive control and emotion processing areas, during negative regulation between patient groups and healthy controls. However, brain activation during emotion regulation processes did not differ between PSA and PC as expected. Further investigation is needed on emotion regulation abnormalities and suicide to understand what creates the difference between patients that do and do not attempt suicide, which may be clearer related to using suppression than reappraisal as regulatory strategy.

The study is funded by ZonMw.

**Keywords:** suicide, emotion regulation, fMRI

**P-106**

## Antidepressant and Stimulant Treatment is not Associated with an Earlier Age of the Incident Case of Mania or Psychosis

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**OBJECTIVE:**
We aimed to analyze the impact of prior antidepressant and stimulant exposure on the age of incident case (AIC) of first episode mania (FEM) or psychosis (FEP) and on duration of illness trajectory (DIT).

**MATERIAL AND METHODS:**
Utilizing the Rochester Epidemiology Project, individuals born after 1985 in Olmsted County, MN, presented with FEM or FEP, subsequently diagnosed with bipolar disorder or schizophrenia were identified. DIT was defined as time from the first mental health visit to FEM/FEP. Duration and peak dose of antidepressant and stimulant exposure were quantified by team consensus. Peak dose of each drug was converted to defined daily dose (DDD), and cumulative exposure was calculated as DDD multiplied by treatment duration. Linear models were used to assess relationships between AIC and DIT with any exposure and cumulative exposure.

**RESULTS:**
A total of 190 FEM/FEP patients (27.9% female) were included. Mean AIC was 20.8±3.7 years; this was not significantly different in those with any exposure to antidepressants or stimulants. DIT was longer in patients ever exposed to antidepressants or stimulants (both $p<0.001$). There was a positive correlation between cumulative antidepressant exposure and AIC in whole sample ($r=0.28$; $p<0.001$), and in FEP ($r=0.33$; $p<0.001$) with a trend in FEM patients ($r=0.21$; $p=0.083$). Cumulative stimulant exposure showed no significant association with AIC, also when stratified for the diagnoses. Cumulative antidepressant ($r=0.46$, $p<0.001$) and stimulant exposure ($r=0.36$, $p<0.001$) positively correlated with DIT.

**CONCLUSION:**
These preliminary findings highlight the need for further investigation into the potential role of antidepressant and stimulant exposure on the trajectory before FEM/FEP.

**Keywords:** Bipolar disorder; Schizophrenia; First episode; Antidepressants; Stimulants; Illness trajectory

**P-107**

## Time Perception Abnormalities as a Cognitive Marker for Diagnostic and Treatment in Bipolar Disorder Patients

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**OBJECTIVE:**
Time perception is essential for understanding the pathobiology of Bipolar Disorder (BD), and it varies significantly across the opposing symptoms in the affective, cognitive, psychomotor, and social domains. Patients with BD experience abnormal shifts in their perception of time: Depressive episodes often characterized by a focus on the past and a slowed experience of time, while manic episodes emphasize the present and future with an accelerated flow of time.
Among BD individuals, the synchronization of inner time misaligns with the objective passage of time. This systematic review seeks to explore the role of time perception as a cognitive marker in BD.

**MATERIAL AND METHODS:**
Literature search using PROSPERO guidelines on the following databases: PubMed, Scopus & Psych Info.
Inclusion Criteria:
English language, Publication date from 2005 to date,
Any BD according to DSM criteria, at least 1 measurement of time perception in BD: physiological, neuropsychological tests.
• Primary quantitative, peer reviewed studies
• PROSPERO ID: CRD42023397631

**RESULTS:**
BD patients demonstrated higher timing variability compared to HC in all studies, indicating a disruption in the internal timing mechanisms independent of symptom status.
Increased clock variability may be related to abnormalities in cerebellar function and associated with mood state and course of illness.
All these studies shed light on the clinical phenotypes of BD, suggesting that timing could serve as a model system for studying the pathophysiological process of BDs.

**CONCLUSION:**
The variations in time perception across different mood states offer insights into the disorder's underlying mechanisms and underscore its significance as a cognitive marker in BD.

**Keywords:** Time perception, temporal processing, timing, cognition, bipolar disorder, systematic review

**P-108**

## Do ECT stimulus parameters and electrode placements affect the cognitive side effects of electroconvulsive therapy in patients with difficult to treat depression? A systematic review and meta-analysis.

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**OBJECTIVE:**
Electroconvulsive therapy (ECT) is an efficacious treatment for patients with difficult to treat depression (DTD), however, its adverse cognitive side effects pose a major barrier to the treatment. The occurrence and severity of cognitive side effects can be influenced by ECT techniques, including variations in stimulus parameters such as pulse width (brief vs ultra-brief), pulse frequency (high vs. low), and stimulus dose (high vs. moderate), alongside distinct electrode placements (right unilateral [RUL], bilateral [BL], and bifrontal [BF]). We aimed to systematically review and meta-analyse the influence of these factors on the cognitive outcomes of ECT in patients with DTD.

**MATERIAL AND METHODS:**
Our search of PubMed, Cochrane Library, and Ovid identified 17 studies that met inclusion criteria, of which 9 (n=596) were meta-analysed. Primary outcomes were change in cognition from baseline to end of treatment. Secondary outcomes were change in depressive symptoms from baseline to end of treatment.

**RESULTS:**
Ultra-brief pulse widths showed advantages in retrograde memory (Hedges' g=0.84, 95% CI: 0.17-1.51, p=0.01), anterograde memory (learning) (Hedges' g=0.67, 95% CI: 0.22-1.13, p=0.003), anterograde memory (delayed recall) (Hedges' g=1.90, 95% CI: -0.02-3.82, p=0.05), subjective memory (Hedges' g=0.40, 95% CI: 0.05-0.76, p=0.03), and time to reorientation (Hedges' g=0.64, 95% CI: 0.22-1.06, p=0.003). No significant differences were observed for high versus moderate stimulus dose. There was an advantage for RUL ECT in measures of retrograde memory (Hedges' g=0.28, 95% CI: 0.02-0.54, p=0.04).

**CONCLUSION:**
Pulse widths, specifically, ultra-brief pulse widths are more influential in reducing adverse cognitive side effects compared to electrode placements and stimulus dose.

**Keywords:** difficult to treat depression, electroconvulsive therapy, pulse width, stimulus dose, pulse frequency, electrode placement

**P-109**

## Neural correlates of positive affective forecasting related to recent suicide attempt and suicidal ideation in patients with affective disorders

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**OBJECTIVE:**
Suicidality is associated with feelings of hopelessness and negative anticipatory biases towards the future. Here we aimed to study whether recent suicide attempters have difficulties in vividly anticipating future events and whether distinct neural mechanisms underlie this.

**MATERIAL AND METHODS:**
Baseline data of patients who attempted suicide within the past six months (SP, N = 23), non-suicidal patient controls (PC, N = 22), and non-psychiatric controls (NPC, N = 23) were included for current analyses. During fMRI scanning, participants engaged in an individualized affective forecasting task to envision positive and neutral future events. ANCOVA and regression analyses were employed to compare the vividness and brain activation across groups.

**RESULTS:**
Recent suicidal attempters and PC showed less vivid imagination of future events compared to NPC. Positive imagery was associated with greater activation of areas encompassing the default mode network and limbic areas, along with deactivation of regions in the dorsal attentional network and premotor cortex compared to neutral imagery. Suicidal and non-suicidal patients exhibited increased activation in the left dorsolateral prefrontal cortex (DLPFC) during imagery of positive events, and increased activation in the left insula, left middle frontal gyrus and left DLPFC during neutral event imagery relative to NPC. Results were independent of the persistence of affective disorder, severity of depressive symptoms, and the use of medication or psychotherapy.

**CONCLUSION:**
These findings suggest suicidal and non-suicidal patients both have deficits of affective forecasting, potentially linked to regions associated with emotional processing and cognitive control, although these findings await future replication given the complexity of suicide.

**Keywords:** suicide, suicidal attempt, suicidal ideation, hopelessness, affective forecasting, fMRI

**P-110**

**Neurocognitive mechanisms of change following Preventive Cognitive Therapy for preventing relapse in depression: a randomized controlled trial.**

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**OBJECTIVE:**
Major Depressive Disorder (MDD) is a prevalent psychiatric disorder, characterized by high relapse risk. This makes preventing relapse an important clinical target. Preventive Cognitive Therapy (PCT) is a protocolized psychological therapy which has shown to lower relapse risk. How PCT attains its effects needs further elucidation.

**MATERIAL AND METHODS:**
Fifty patients remitted from at least two depressive episodes in the past five years were randomized to PCT (n=25) or a waiting list (n=25) in the context of the NEWPRIDE-trial. Primary outcome measures were changes in brain activation during effortful emotion regulation and in biased processing between baseline and three-month follow-up. Additionally information on diagnosis, symptomatology, cognitive and affective reactivity, and emotion regulation styles- was obtained.

**RESULTS:**
Following PCT, patients showed decreased recruitment of dorsomedial-prefrontal regions during upregulation of positive affect and stable recruitment of the pregenual anterior cingulate cortex during regulation of emotions over valences, compared to the waiting list. Furthermore, PCT resulted in a lower increase of depressive symptomatology and increased activation of positive thinking, lower responsivity of negative affect and increased successful application of cognitive reappraisal to modify affective states.

**CONCLUSION:**
PCT may obtain its relapse preventing effects by targeting the regulation of mood. More specifically, changes in regulation of positive affect and content of positive cognitions may decrease negative mood and affect. This supports cross-valence compensatory models of cognitive therapy and suggests that strengthening and shifting cognition and affect to more positive content may guard against the activation of negative cognitions and affect in the face of daily hassles and life events.

**Keywords:** preventive treatment, neurocognitive mechanisms, cognitive therapy, depression, relapse, fMRI

**P-111**

**Sex-dependent predictor of suicidality reduction after MDD treatment**

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**OBJECTIVE:**
Assess the role of sex differences on how baseline demographic and clinical factors affect suicidality reduction during MDD treatment.

**MATERIAL AND METHODS:**
We analyzed data from two clinical trials, Sequenced Treatment Alternatives to Relieve Depression (STAR*D) and Mayo Clinic Pharmacogenomic Research Network Antidepressant Medication Pharmacogenomics Study (PGRN-AMPS), which included adults with non-psychotic and at least moderately severe MDD. Participants were given citalopram (STAR*D) or citalopram/escitalopram (PGRN-AMPS). Suicidality reduction was defined as lower clinician-rated suicidality between baseline and follow-up (STAR*D week 6; PGRN-AMPS week 8). Controlling for study, ordinal logistic regression models were fit to assess the relationship between suicidality reduction and baseline age, race and ethnicity, education, marital status, employment, recurrence of MDD, age of onset, disease duration, and episode duration. Models included sex as an interaction factor and were then stratified by sex. Differences were tested using likelihood ratio tests. Significance was defined as a Bonferroni-corrected p-value of 0.0038.

**RESULTS:**
Among all participants (n=3,227, 62.4% women), sex (p=2.19E-4), full-time employment (p=2.07E-4), and shorter disease (p=5.99E-5) and episode (p=2.74E-5) duration were associated with greater suicidality reduction. Sex interactions, indicative of sex differences, were observed for ethnicity (p=2.37E-4), race (p=7.56E-5), marital status (p=8.39E-5), and MDD recurrence (p=5.83E-4). Among these, only race showed a sex-dependent association after sex-stratification. Women identifying as White Non-Hispanic (WNH) had a greater likelihood of suicidality reduction after MDD treatment (p=0.001); this was not the case for men.

**CONCLUSION:**
Including sex as a biological variable in studies may help identify previously overlooked sex-dependent predictors of treatment response.

**Keywords:** Major Depressive Disorder, Sex Differences, Social Determinants of Health, Clinical Trial, Selective Serotonin Reuptake Inhibitors

**P-112**

## Linking Premenstrual Syndrome and Premenstrual Dysphoric Disorder to other Affective Disorders and Suicide

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**OBJECTIVE:**
The aim of this study is to increase understanding of gender specificities of affective disorders by summarizing the available literature on the association between premenstrual syndrome (PMS) and/or premenstrual dysphoric disorder (PMDD) and other affective disorders and their mental health outcomes, namely suicide.

**MATERIAL AND METHODS:**
A literature search of PubMed database was carried out in August 2023, using the terms premenstrual disorder AND affective disorder. Only systematic reviews and meta-analysis were included with no year or language restrictions. There were forty-one eligible articles, but only eleven encompassed the objectives of this review.

**RESULTS:**
PMS and PMDD are most often comorbid among bipolar disorder type 2 (BD-II) patients. Simultaneously, they are also associated with an increased risk of developing bipolar disorder type 1 (BD-1). Furthermore, bipolar individuals susceptible to hormonal changes exhibit more severe symptoms, more frequent relapses, and a worse therapeutic response. Moreover, PMDD is associated with perinatal depression, including postpartum depression (PPD), while history of PMS before pregnancy is associated with PPD only. Both PMDD and PMD were found to be linked to higher risk of suicide ideation, whereas PMDD was also linked to increased risk of suicide attempts. However, these findings concerning suicide were independent of psychiatric co-morbidities.

**CONCLUSION:**
Current evidence supports the need for screening symptoms of PMDD when assessing women in a psychiatric setting, but also in family planning and first pregnancy appointments. In addition, the estrogen-serotonin hypothesis, and a possible involvement of the hypothalamic-pituitary-ovarian axis, may underlie the particular aspects of the development of affective disorders in women.

**Keywords:** Premenstrual syndrome, Premenstrual dysphoric disorder, Bipolar disorder, Perinatal depression, Postpartum depression, Suicide

**P-113**

## Pharmacogenomic prediction of antidepressant non-refill using Cytochrome P450 metabolizer phenotypes.

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**OBJECTIVE:**
Prescription non-refill may be indicative of impaired antidepressant tolerability. Considering that it may be estimated from electronic prescriptions, its use could facilitate large-scale pharmacogenomic studies. We examine its association with Cytochrome P450 (CYP) metabolizer phenotypes.

**MATERIAL AND METHODS:**
Data was obtained from the RIGHT Study (n=11,087), a pharmacogenomic study that recruited volunteers previously enrolled in the Mayo Clinic Biobank. We included participants with ≥1 antidepressant prescriptions, using available electronic health records prior to reporting of pharmacogenomic results. Non-refill for [es]citalopram (citalopram or escitalopram) and paroxetine was defined as having a single prescription without another prescription for the same medication. Mayo Clinic Personalized Genomics Laboratory clinical methods were used to predict extensive/normal, rapid/ultrarapid, and poor/intermediate metabolizer phenotypes for CYP2C19, CYP2C9, CYP2D6, and CYP3A5. We fit independent logistic regression models testing the relationship between non-extensive/normal metabolizer phenotypes and antidepressant non-refill using Wald tests, adjusted for age and gender.

**RESULTS:**
Among participants prescribed [es]citalopram (n=1,770), rapid/ultrarapid CYP2D6 metabolizers (n=43) had greater odds of non-refill than extensive/normal CYP2D6 metabolizers (OR[95%-CI]=2.05[1.06-3.84];p=0.0278), and rapid/ultrarapid CYP2C19 metabolizers (n=529) had lower odds of non-refill than extensive/normal CYP2C19 metabolizers (OR[95%-CI]=0.72[0.55-0.94];p=0.0162). Of those prescribed paroxetine (n=454), poor/intermediate CYP2D6 metabolizers (n=77) had greater odds of non-refill than extensive/normal metabolizers (OR[95%-CI]=2.23[1.34-3.71];p=0.00204).

**CONCLUSION:**

In line with expected pharmacogenomic effects, we present preliminary evidence supporting the use of non-refill as an approximation of impaired antidepressant tolerability. However, our findings are limited by multiple comparisons and low rates of non-extensive metabolizer phenotypes. Therefore, studies on larger samples are needed to validate the use of non-refill as an antidepressant treatment outcome.

**Keywords:** Mental Health, Electronic Health Records, Pharmacogenetics, Treatment Outcomes, Antidepressants

**P-114**

## Research on the level of knowledge about covid-19,and anxiety in foreign students of the medical faculty under the conditions of the epidemic of coronavirus infection (COVID-19) in the Kyrgyz Republic

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**OBJECTIVE:**
Study of awareness of coronavirus infection (COVID-19), and anxiety conditions among foreign students in COVID-19 pandemic at International Higher School Of Medicine, Bishkek, Kyrgyzstan.

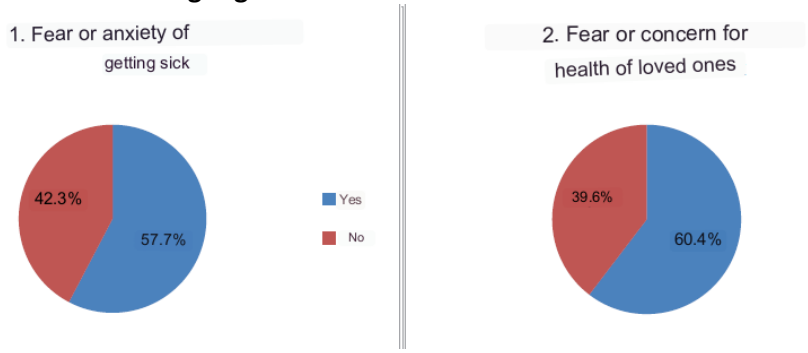
**MATERIAL AND METHODS:**
The study was conducted twice using online platform survio.com: during the state of emergency,and after it was lifted. In the first survey, 568 students took part, in the repeated – 204. The questionnaire included questions regarding awareness of COVID-19, measures taken to prevent the disease, and the difficulties of being in self-isolation. Spielberg's scale was used to measure anxiety levels. Statistical data processing was carried out using Excel and SPSS 18.0. Arithmetic mean, standard error, quartiles, Student's t-test, Phi and Cramer's V were calculated. Results were considered significant at $p<0.05$.

**RESULTS:**
Most of the foreign students were interested in information about COVID-19 via the Internet (79.4%), the main measures for the prevention of the disease were simultaneous self-isolation, hygiene and proper nutrition – 47, 2%. The share of students who did not take preventive measures decreased since the beginning of quarantine from 17.1% to 1.5% after the end of the emergency regime. The results obtained for anxiety disorders indicate the prevalence of moderate state anxiety (in 56.9% of cases) during quarantine, and high state anxiety (in 52.6% of cases) after the end of quarantine.

**CONCLUSION:**
There was an increase in the anxiety of students, due to ongoing threat of infection, conflicting information regarding the forecast for improvement in the situation, problems with returning to their homeland. Data also indicates emotional difficulties amongst the main problems faced.

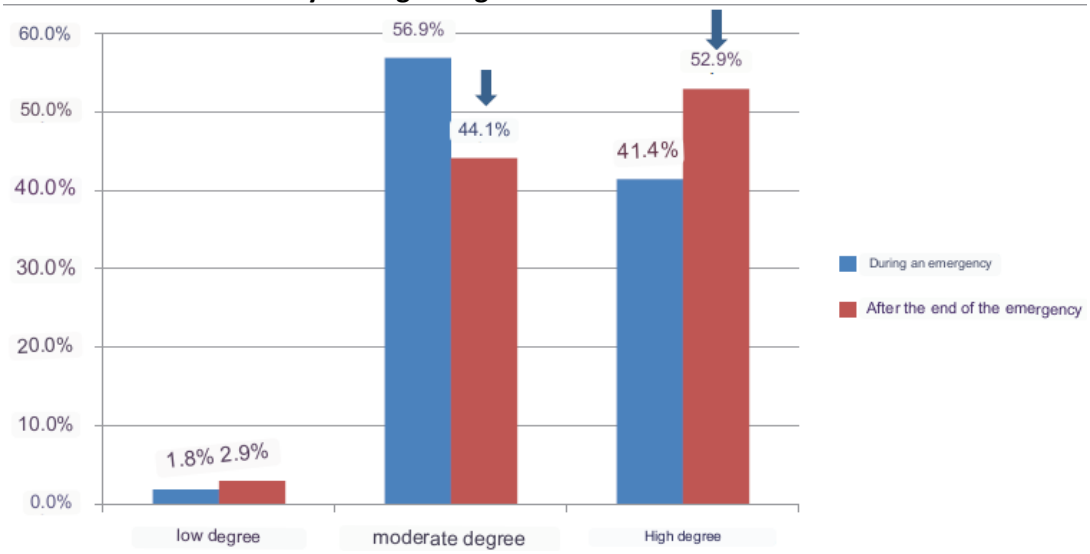
**Keywords:** coronavirus infection, anxiety disorders, students

**1. Do you feel anxiety or fear of getting sick with COVID-19? 2. Do you have any concerns or fears that your close relatives might get sick with COVID-19?**



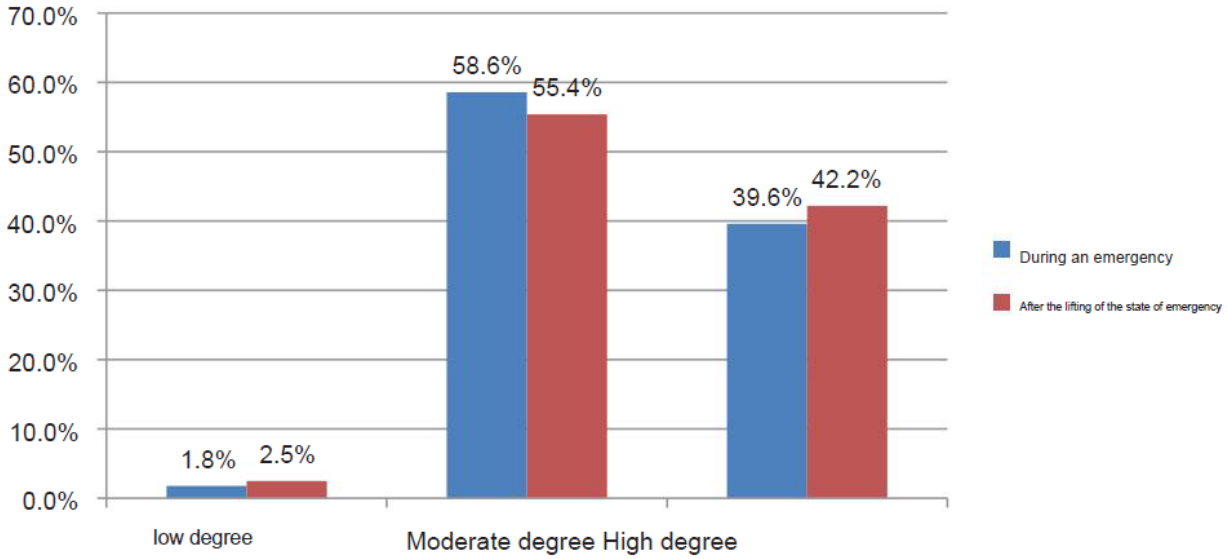

*More than half of the students to the question "Do you feel anxiety or fear of getting sick with COVID-19?" answered in the affirmative - 328 respondents (57.7%). In addition, 343 (60.4%) students expressed concern for the health of close relatives due to coronavirus infection.*

**Indicators of state anxiety among foreign students**



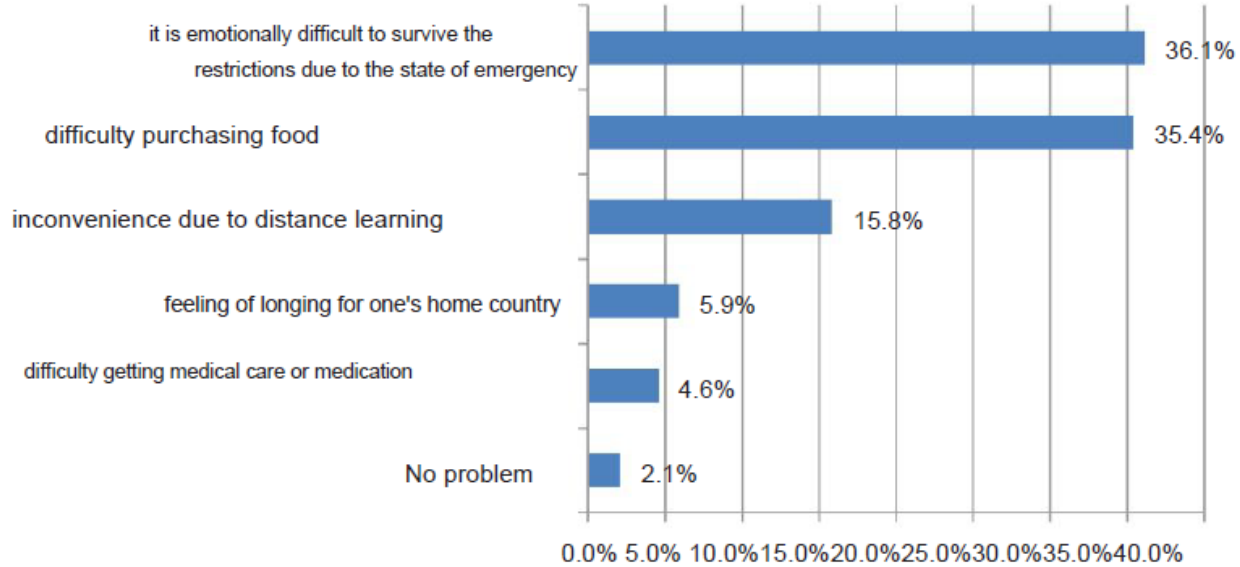

*Statistics showed that ST of a low degree was defined in 10 respondents (1.8%), moderate - in 323 (56.9%), high - in 235 (41.4%) On re-examination, low ST was found in 6 (2.9%), moderate - in 90 (44.1%), high – in 108 (52.9%), that is the severity increased significantly ($p<0.05$).*

**Indicators of trait anxiety among foreign students.**



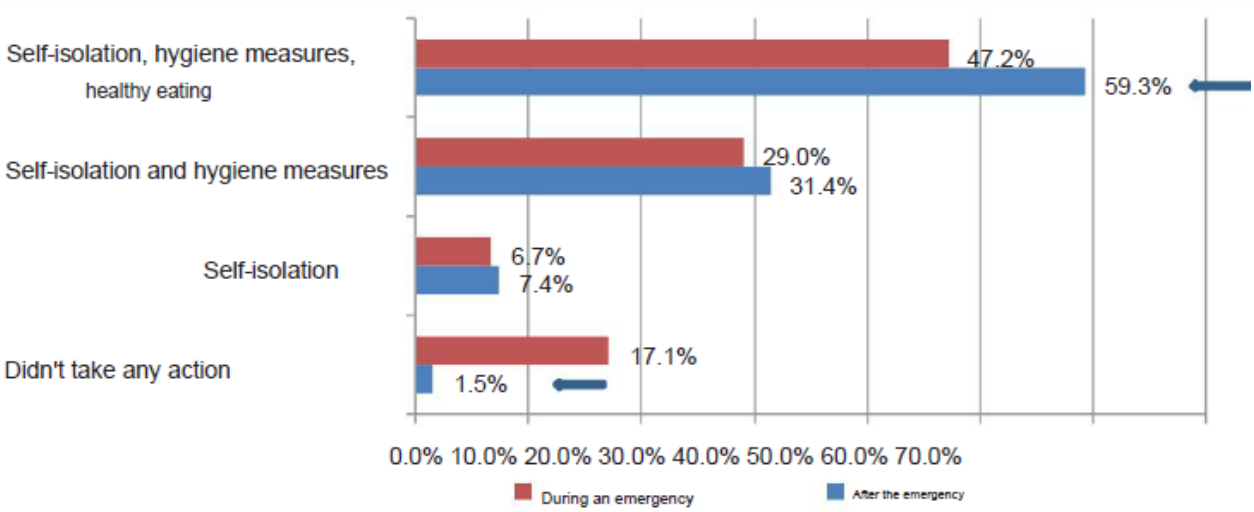

*A low level of TA was observed in 10 respondents (1.8%), a moderate level - in 333 (58.6%), a high level - in 225 (39.6%). In the second study, a moderate level of TA also prevailed, Trait anxiety of low severity was observed in 5 (2.5%), moderate - in 113 (55.4%), high - in 86 (42.2%). The difference between baseline and re-examination was not significant (p>0.05).*

**What are the main problems you had during the quarantine?**




*The main problems during quarantine were: emotional difficulties to survive the restrictions due to the state of emergency - in 205 students (36.1%), difficulties in purchasing food - 201 (35.4%), inconvenience due to distance learning - 90 (15.8%), difficulties in obtaining medical care or medicines - 26 (4.6%), a feeling of longing for their native country - 34 (5.9%), Problems were not noted - 12 (2.1%) respondents.*

**What COVID-19 prevention measures are you using?**




*During the state of emergency, students took the following coronavirus prevention measures: self-isolation – 38 respondents (6.7%), self-isolation and personal hygiene measures - 165 (29.0%), self-isolation, personal hygiene measures (hand washing, respiratory hygiene) and healthy nutrition - 268 (47.2%). No measures were taken - 97(17.1%) After the end of the state of emergency, the proportion of students who adhered to self-isolation, personal hygiene measures and healthy eating was 121 (59.3%) ($p<0.05$). It should be noted that cases of ignoring disease prevention measures significantly decreased from 17.1% to 1.5% ($p<0.05$).*

**P-115**

## The Effects of Single Dose and Repeated Dose Ketamine on Cognition in Treatment-Resistant Depression: A Systematic Review

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**OBJECTIVE:**
BACKGROUND: Cognitive deficits are recognized as a prominent contributor to psychosocial impairment in MDD. Nevertheless, it presents a challenge as few treatment options are available. Ketamine, a novel therapeutic agent with rapid antidepressant effects, has emerged as an agent with potential procognitive effects.
AIMS: This systematic review aims to evaluate the effects of (1) single and repeated-dose ketamine on cognition in patients with TRD, (2) the effects of Ketamine given as an adjunctive treatment during Electroconvulsive therapy (ECT), and (3) analyse the findings to ascertain whether ketamine antidepressant effect is the main mediating factor for improvement in cognition.

**MATERIAL AND METHODS:**
We conducted a systematic search in February 2023, using the following electronic databases: MEDLINE, EMBASE, APA PsycINFO, Google Scholar, and Cochrane Library. We used the terms ketamine, cognition, and treatment-resistant depression to investigate the outcomes of double-blind randomized control trials. Our review of cognitive function was restricted to 4 principal cognitive domains (working memory, speed of processing, visual and verbal memory).

**RESULTS:**
12 articles met our inclusion criteria. Our results suggest that ketamine may confer cognitive benefits in the short term; however, we also found limited deleterious effects on specific cognitive domains that warrant further investigation.

**CONCLUSION:**
: Ketamine appears to confer cognitive benefits, but we were unable to provide a definitive answer to its independent or direct effect on cognition. Thus, future studies should explore the short and long-term impact of ketamine on cognition, with cognitive function as their primary outcome.

**Keywords:** Ketamine, cognition, treatment-resistant depression, Major depressive disorder.

**P-116**

## Depression, anxiety, and substance and behavioral addictions: comparison between clinical and non-clinical adolescent samples.

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**OBJECTIVE:**
Depression and anxiety are significantly related and often coexist as comorbid disorders in both substance and behavioral addictions in adolescents. The study compares the relationship between depression and anxiety symptomatology with substance and behavioral addictive problems in clinical and non-clinical adolescent samples.

**MATERIAL AND METHODS:**
Two samples of adolescents (female = 72; *Mean age* = 15.95, *SD* = 1.27) from clinical (n = 55) and non-clinical (n = 58) settings completed the Symptom Assessment-45 Questionnaire, the MULTICAGE CAD 4 and TIC questionnaires. Bivariate correlations were performed for each sample.

**RESULTS:**
Correlations analysis showed that depression symptoms were significantly associated with alcohol (*r* =.284*), drugs (*r* =.432**), gambling (*r* =.266*) and compulsive shopping (*r* =.290*) in the clinical group. These relationships were not significant in the non-clinical sample. Also, depression symptomatology was significantly associated with binge eating in both clinical (*r* =.429**) and non-clinical (*r* =.433**) samples. Anxiety symptoms were also significantly correlated with binge eating in both clinical (*r* =.489**) and non-clinical (*r* =.425*) samples. Compulsive sex, problematic internet use, mobile, social media and video gaming were not significantly associated with depression or anxiety symptoms in any group.

**CONCLUSION:**
Our findings suggest that among adolescents with psychopathology, depressive symptoms are more frequently related to problematic substance use and some addictive behaviors than anxiety symptoms. Depressive and anxiety symptoms are significantly related to binge eating in both clinical and non-clinical adolescents. This comorbid symptomatology could be explained by shared underlying mechanisms that must be deeply studied.

**Keywords:** depression, anxiety, substance addictions, behavioral addictions, adolescent.

**P-117**

**Pramipexole's Emerging Role in Bipolar Depression Management: A Review**

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**OBJECTIVE:**
The use of pramipexole in bipolar depression has emerged as a subject of growing interest. This review delves into the most recent and relevant studies and aims to determine the efficacy and safety of pramipexole in the treatment of bipolar depression.

**MATERIAL AND METHODS:**
Non-systematic literature research was conducted on PubMed and Google Scholar, using the keywords "bipolar disorder", "depression" and "pramipexole". The study included 2 randomized controlled trials (RCTs), 1 open-label trial, 1 retrospective study, 2 meta-analyses, and 2 systematic reviews.

**RESULTS:**
Two RCTs showed response rates greater than 60% (compared to 9% and 11% in the placebo groups) and did not report significant side effects or an increased risk of (hypo)manic switch. An open-label trial demonstrated a similar response rate of 70.4% in patients with treatment-resistant depression, with 58.7% of subjects achieving remission after 12 weeks. A naturalistic retrospective study concluded that pramipexole appears to be well-tolerated by bipolar patients, who generally experience a significant reduction in depressive symptoms. A meta-analysis showed a short-term response rate of 52.2% and a long-term remission rate of 39.6% (higher than that of traditional antidepressants). Another meta-analysis estimated a treatment response rate of 62.5%. Both systematic reviews conclude that the use of pramipexole could be a safe strategy for unipolar and bipolar treatment-resistant depression, but these findings require further investigation.

**CONCLUSION:**
The use of pramipexole for bipolar depression appears to be efficacious and safe, with no increased risk of (hypo)manic switch. A Phase 3 trial is necessary to draw further clinical conclusions.

**Keywords:** Pramipexole, Bipolar Disorder, Depression

**P-118**

**Breakthrough Discoveries for thriving with Bipolar Disorder**

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Mark Frye

**OBJECTIVE:**
Breakthrough Discoveries for thriving with Bipolar Disorder, or BD2, is a collective force that will transform what we know about bipolar disorder and how we treat it. The initiative consists of four integrated programs that embodies the principles of open data and team science to break down barriers between innovation, scientific discovery, and clinical care.

**MATERIAL AND METHODS:**
The Discovery Grants will fund multidisciplinary teams of scientists and clinicians to develop hypothesis-driven, targeted proposals to examine the biological mechanisms underlying bipolar disorder. The Genetics Platform will fund the collection and sequencing of large and diverse samples from people with bipolar disorder. The Brain Omics Platform will fund proteomic, transcriptomic, and other -omic approaches on human brain tissue of people with bipolar disorder. The Integrated Network will support a learning health network built with a foundational cohort of 4,000 participants with bipolar disorder that will integrate deep phenotyping data with clinical care to rapidly improve outcomes.

**RESULTS:**
After an initial year of US recruitment, 6 sites with a common electronic health record, request for additional applications internationally will be released.

**CONCLUSION:**
Together, these four programs will work to enhance our understanding of bipolar disorder to provide improved interventions for people with bipolar disorder.

**Keywords:** Bipolar Disorder, Learning Health Network, Cohort

**P-119**

**Implications of ADHD in the peripartum period**

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**OBJECTIVE:**
Attention deficit hyperactivity disorder (ADHD) is a common neurodevelopmental disorder that has a high prevalence of coexisting psychiatric conditions. There is a growing interest in understanding the influence of ADHD-related burden in women during the postpartum period as well as the impact on parent-child-interactions in early infancy and on the offspring's development. This review aims to explore the implications of ADHD in the peripartum period, as well as the potential risks for the offspring.

**MATERIAL AND METHODS:**
Non-systematic literature research in the GoogleScholar and PubMed database, using the keywords "ADHD", "postpartum depression", "offspring".

**RESULTS:**
Findings suggest that women with ADHD may be at a higher risk of experiencing both depression (PPD) and anxiety disorders postpartum. Shared risk factors such as hormonal changes, genetic predisposition, and psychosocial stressors may contribute to the co-occurrence of these conditions. Children of ADHD parents have an increased risk of developing ADHD. Moreover, the presence of both ADHD and PPD can have a compounding effect on maternal-infant outcomes, as maternal PPD is also associated with an increased risk of ADHD in the offspring.

**CONCLUSION:**
ADHD is an important risk factor for both depression and anxiety disorders postpartum, with potential negative impact on early parent-child-interaction and infant development. Therefore, ADHD needs to be considered in the maternal care, regardless of sociodemographic factors and the presence of other psychiatric disorders. Clinicians should also be aware of a potential higher risk of unplanned pregnancies in ADHD girls and women.

**Keywords:** ADHD, postpartum depression

**P-120**

## Longitudinal associations between executive function impairments and suicide risk in patients with major depressive disorder: a 1-year follow-up study

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**OBJECTIVE:**
Impaired executive function (EF) has been associated with an increased risk of suicide in patients with major depressive disorder (MDD). However, no longitudinal study has yet examined whether impaired EF predicts suicide risk in depressed patients. Our aim is to longitudinally assess the association between executive impairment and suicidality in adult patients with MDD.

**MATERIAL AND METHODS:**
A prospective longitudinal study was developed with 3 assessment points: baseline, 6 and 12 months. The Columbia-Suicide Severity Rating Scale was used to longitudinally assess suicidal ideation and suicide attempts. The Cambridge Automated Neuropsychological Test Battery was used to longitudinally evaluate EF performance, specifically to assess working memory, planning, inhibitory control, and decision-making. The relationship between EF impairments and suicidality was analysed using mixed-effects models, adjusted for sociodemographic and clinical variables.

**RESULTS:**
A total of 104 participants with MDD diagnosis were recruited at baseline, 72 were reassessed at 6 months and 60 at 12 months, resulting in 225 complete EF observations. Impaired decision-making and risk-taking behaviour were longitudinally associated with suicidal ideation. Difficulty in impulse control was linked to suicidal ideation and to greater severity of suicidal ideation throughout the study. Impaired spatial planning and working memory were longitudinally related to suicide attempts.

**CONCLUSION:**
Impulsivity was the main neuropsychological feature found in MDD patients at suicidal risk, and could be used for the rapid identification of depressed subjects at high risk of suicide. The association between alterations in EF and suicidality is long-term sustained, endorsing it as a possible neurocognitive marker of suicide in patients with MDD.

**Keywords:** suicidality, depression, executive function, cohort, impulsivity, longitudinal